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SEPTEMBER 8, 1944

Railway Age

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The Rock Island Lines Selects

TIMKEN RAILWAY JOURNAL BEARINGS

For Five New Light Weight Box Cars

Timken Roller Bearings will do the same outstanding job on freight car equipment that they are now doing on all types of high speed locomotives and passenger car equipment.

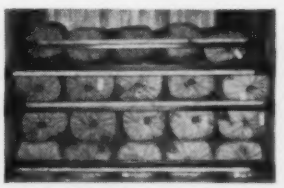
Timken Roller Bearing applications are now available for all types of high speed freight car trucks.

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
RAILWAY ROLLER BEARINGS

THE TIMKEN ROLLER BEARING COMPANY
CANTON 6, OHIO

GRIPS THE LOAD *and* **LOCKS** THE GRIP
UTILITY-LOADER

It's true! Anvils have been "Utility-Loader-shipped" on top of perishable millinery . . . and the millinery arrived unharmed. When you ship a box-car load in a general purpose Utility Loader you can place anything under anything . . . anything beside anything . . and still be sure it will reach the consignee uncrushed and unmarred. The general purpose Utility Loader grips the load . . . and then locks the grip against vertical and longitudinal movement, vibration, shock and shifting. No part of the grip-locked load can drop on or slide into another part.



Part of box-car cargo of rounded bales —difficult to load safely—but *grip-locked* in place *to stay* by the Evans General Purpose Utility Loader.

Write for a copy of the Evans Manual today. It illustrates the manifold advantages of general purpose Utility Loader grip-locked loads to shipper, carrier and consignee alike.

FOR THE GOOD OF THE RAILROADS

EVANS DETROIT PLANT FLIES ARMY-NAVY "E" PENNANT

EVANS PRODUCTS COMPANY

DETROIT 27, MICHIGAN

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 119, No. 10.

MINER

Friction Draft Gears

STURDY IN CONSTRUCTION

POSITIVE IN ACTION

ABSOLUTELY RELIABLE

W. H. MINER, INC. CHICAGO

Bendix
V.H.F.
Radio
AM or FM*
With the same equipment

first IN THE Field !

ESPECIALLY DESIGNED FOR RAILROAD USE

The RTR-1 Train Communication System is now ready and available for your Railroad use.

Now *your* Railroad may take *immediate* advantage of the benefits of V.H.F. (Very High Frequency) space radio with custom-built equipment in the Bendix tradition—equipment that anticipates and incorporates features of design and construction that assure day-in and day-out performance for years to come.

Developed especially for Railroads, this V.H.F. radio system is the result of a careful study of railroad communication problems—and is backed by years of Bendix experience as the leading designer of radio communications equipment for the transportation industry.

Engineered by Bendix Radio to meet Railroad standards of reliability, the RTR-1 Train Communication System—tested over 350,000 miles of actual operation in all types of weather conditions—provides complete flexibility of operation for yard and terminal, end to end, and wayside to train communication services.

Our engineers will be glad to discuss with you the application of this complete communication system on your railroad. Write to Bendix Radio Division, Baltimore 4, Maryland.

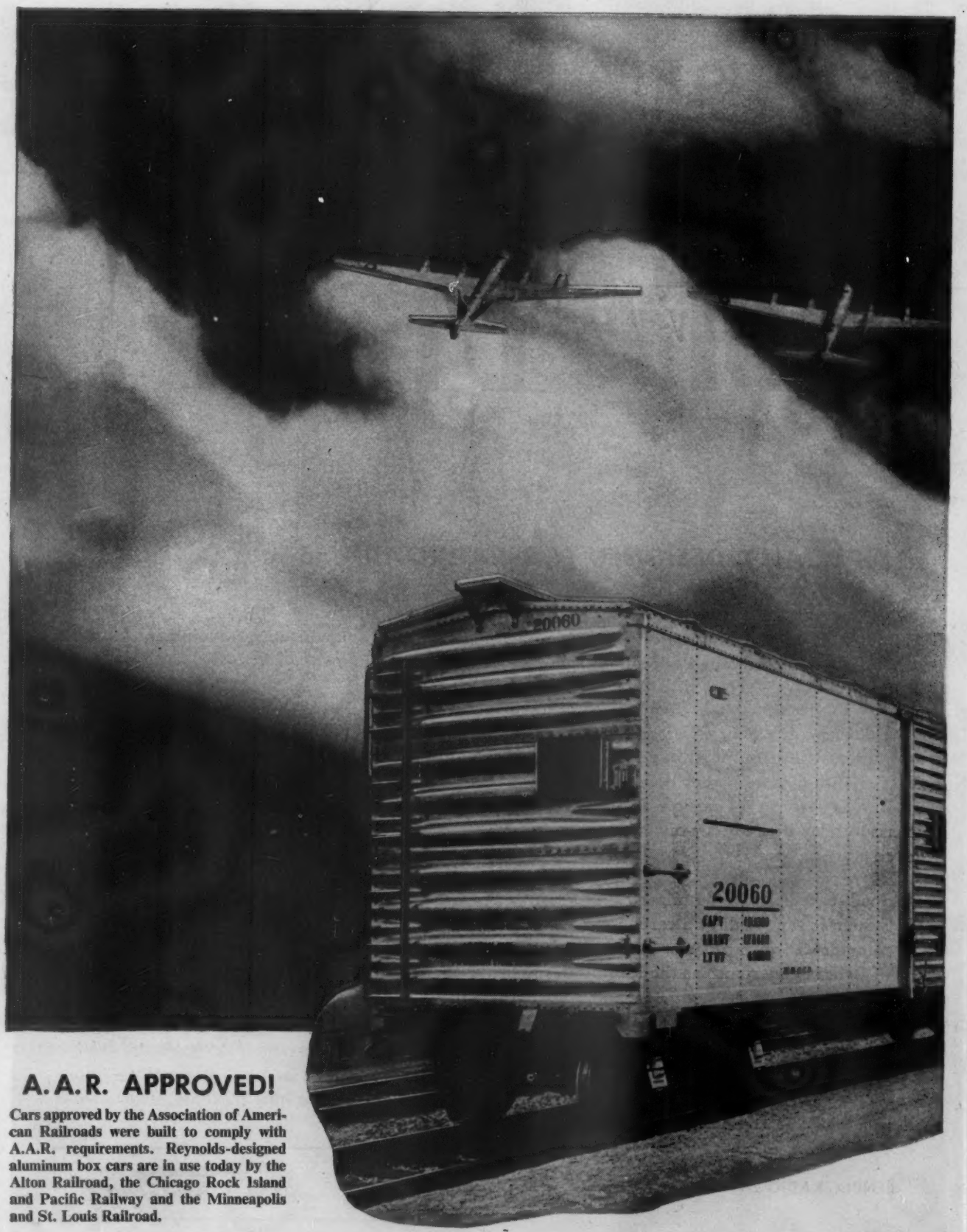
Listen to "MEN OF VISION" *every week over CBS.*

A typical example of Bendix foresight—equipment so engineered and designed that AM Amplitude Modulation or FM Frequency Modulation, whichever you desire now or after purchase, is obtainable with the same original equipment. Write for complete details.

BENDIX RADIO DIVISION, BALTIMORE 4, MARYLAND

BENDIX RADIO — Bendix AVIATION CORPORATION

How UP-TO-DATE are you



A. A. R. APPROVED!

Cars approved by the Association of American Railroads were built to comply with A.A.R. requirements. Reynolds-designed aluminum box cars are in use today by the Alton Railroad, the Chicago Rock Island and Pacific Railway and the Minneapolis and St. Louis Railroad.

on ALUMINUM?

TOUGH ALUMINUM BOX CARS

now a reality through battle-tested Reynolds Alloys

ROLLING THE RAILS TODAY, these revolutionary new A.A.R. approved aluminum box cars are making history in economy, toughness and speed!

Thanks to R301 and other great Reynolds alloys, developed for our warplanes, it is now possible to build these new box cars from the floor up *entirely of aluminum* . . . saving tons of weight yet with great structural strength.

These cars for freight service have reduced weight up to 9000 pounds, pull easier, bring substantial savings of fuel for train and switching service.

These new Reynolds alloys make practicable improved cars for *all* types of rolling stock, including Reynolds-designed 50-ton, 3 Hopper cars, "Day-Night" passenger coaches and Refrigerator Cars. Reynolds Railway Supply Div. invites inquiries. Blueprints available. Reynolds Metals Company, Railway Supply Div., 310 Michigan Boulevard, Chicago 4, Illinois.

Length over pulling face couplers	44′ 4″
Length inside	40′ 6″
Length truck centers	30′ 10″
Width extreme over all (door fixtures)	10′ 7¼″
Width over frame	9′ 9⅝″
Width inside	9′ 2″
Height from rail to top running board	14′ 11¾″
Height rail to floor	3′ 7¾″
Height inside	10′ 6″
Clear height door opening	9′ 10 11/16″
Clear width door opening	6′ 0″
Contents—cu. ft.	3,900
Capacity	100,000 lbs.

LIGHT WEIGHT, READY FOR SERVICE

With swing motion trucks—Barber S-4-L (Timken Roller Bearings)	42,900 lbs.
With freight trucks Barber S-2	36,500 lbs.
With freight trucks—Cardwell snubbers	37,400 lbs.

REYNOLDS METALS

REYNOLDS ALUMINUM

The Great New Source of

INGOT · SHEET · SHAPES · WIRE · ROD · BAR · TUBING · PARTS · FORGINGS · CASTINGS · FOIL · POWDER

Railroads

No medal commemorates the superb wartime achievements of the American railroads, or the devotion and great fighting spirit of the men who man them. None is necessary. Their reward is in the consciousness of a job well done, in the hearts of a grateful people.

Pullman-

CHICAGO • NEW YORK

GET NO MEDALS

OUR RAILROADS were in transition when war struck; the age of lightweight construction was just under way. No reserve equipment had been built for this emergency. They went to work while geared to normal peacetime operations and pyramided their efficiency to handle staggering overloads . . . men matching inspired toil against all the burdens that machines could deliver.

When industrial output vaulted to historic peaks, the railroads took the increase in their stride. They moved not only America's gigantic output of raw materials and finished armaments, but all the goods of global war consigned to distant allies. On priority schedules, they carried the men and the gear of vast armies. All this, plus the transportation demands of the most complex civilian economy on earth. They did it with aging equipment, with essential replacements frozen, and in spite of contributing 351,451 employes, or approximately 26% of their skilled manpower to military service.

As the nation salutes the railroads for their conspicuous part in helping to fashion victory, their war work still goes on. It will hold priority until the last serviceman is home, until the last war freight is moved. Congested facilities will be relieved by crack new equipment now building—The Trains of Tomorrow—to maintain the leadership of the rails in safe, modern, more comfortable transportation.

Standard CAR MANUFACTURING COMPANY

CLEVELAND • WASHINGTON, D. C. • PITTSBURGH • BALTIMORE • BIRMINGHAM • WORCESTER, MASS.

San Francisco Sales Representative, Mark Noble

the American Brake Shoe

SIMPLICITY ITSELF
in construction and operation

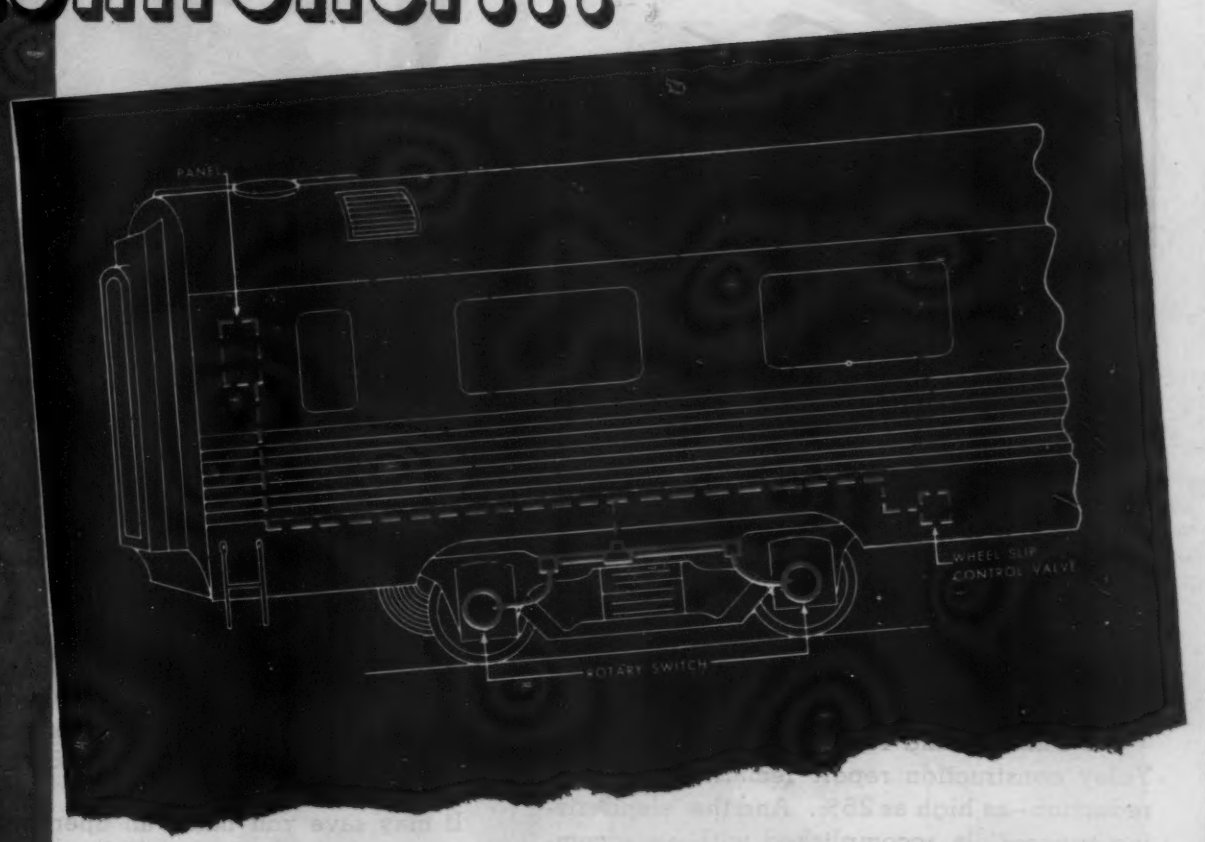
• The simplicity of the American Brake Shoe Controller, is shown by the above drawing. There is but one moving part — a rugged rotor.

• Testing is simple, too. Operation can be accurately checked when car is standing or moving.

AMERICAN
Brake Shoe
COMPANY

BRAKE SHOE AND CASTINGS DIVISION
230 Park Ave., New York 17, N. Y.

Controller...



RELIABILITY ITSELF
in prevention of slid flats

• The American Brake Shoe Controller is positive in its detection of wheel slippage . . . instant in its correction . . . unfailing in its restoring of full brake as soon as slippage is eliminated.

• Passenger Traffic and Operating officials welcome the availability of equipment made possible by the use of the American Brake Shoe Controller, proved by years of successful performance on high speed passenger trains.

4139

EXCESSIVE weight in a railroad car can be eliminated by this very simple prescription --use Yoloy!

Car Builders and roads that employ welded Yoloy construction report remarkable weight reduction--as high as 25%. And the "slenderizing process" is accomplished with an accompanying increase in strength and lengthened life.

Yoloy...this "reducing medicine" for railroad cars...is Youngstown's high-tensile steel, a nickel-copper alloy with a twelve year record of successful performance in equipment in peace and in war. It permits lighter weight construction that is also stronger and tougher than conventional. Its unique properties of shock, abrasion and corrosion resistance add to its value as a railroad material.

It may save you many an operational headache to reduce weight with Yoloy. Get acquainted now, so you can enjoy its benefits in your car building and renovating programs, both immediate and future. Yoloy is currently available and we are anxious to serve you. Your inquiry will receive prompt attention.

Sheets - Pipe and Tubular Products - Plates-Conduit-Bars-Electrolytic Tin Plate-Coke Tin Plate-Rods-Wire Nails-Tie Plates and Spikes.

YOLOY YOUNGSTOWN STEEL

YOUNGSTOWN

THE YOUNGSTOWN SHEET AND TUBE COMPANY
YOUNGSTOWN 1, OHIO
Manufacturers of
CARBON - ALLOY AND YOLOY STEELS

TOOLS WITH A THOUSAND USES!

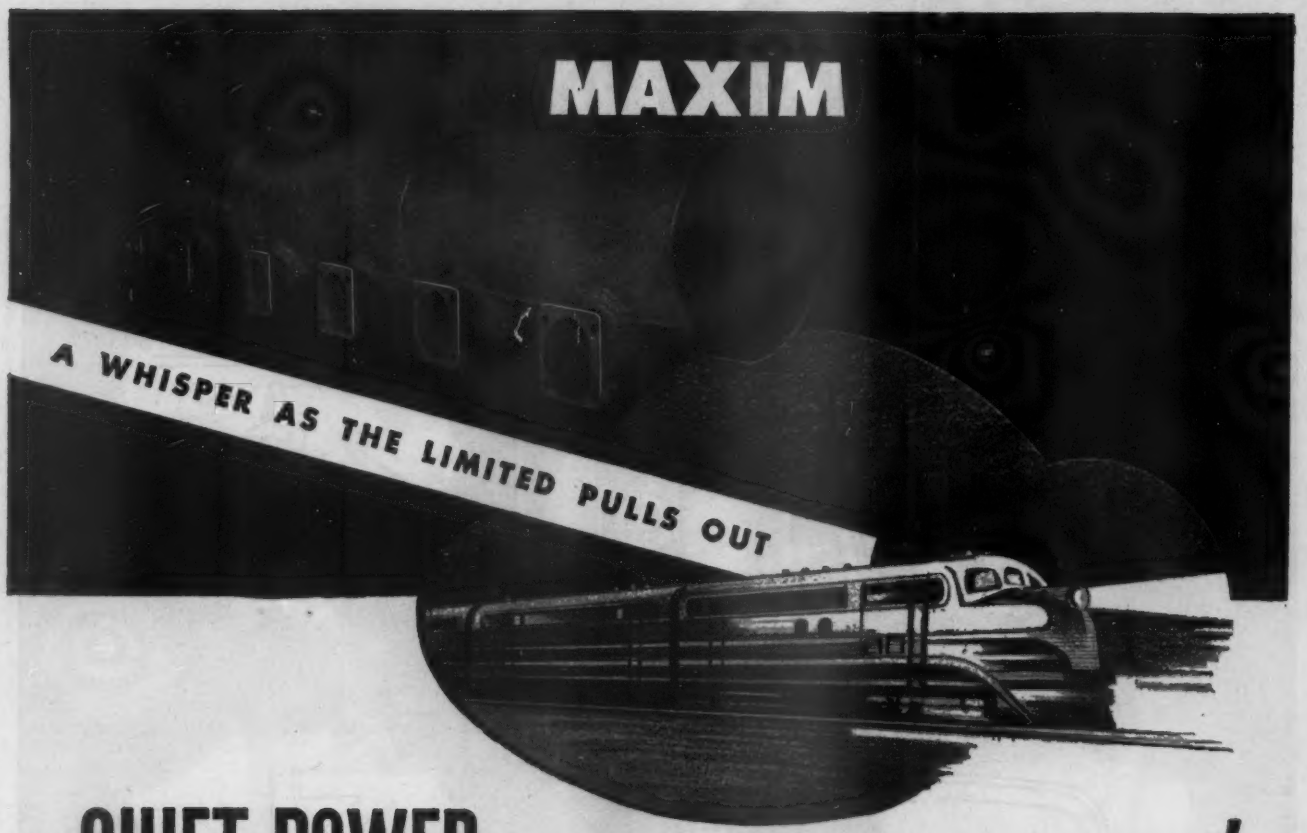
ARO

PNEUMATIC TOOLS

Now—the growing line of ARO Pneumatic Tools covers practically *every* assembly job!

This brings ARO-Engineered *accuracy, speed* and *dependability* to the whole wide range of assembly operations such as nut-setting, screw-driving, burring, filing, grinding, polishing and countless other small tool jobs. Combining stall-proof *power* with light-weight construction—these tools mean less fatigue . . . more production! In war production, ARO Tools have been used for many special jobs. They can be easily adapted to unusual requirements in your plant. Talk to your nearest ARO Field Engineer for help with your special tool problems. Write for catalog. The Aro Equipment Corporation, Bryan, Ohio.

MAXIM



.....QUIET POWER as a switcher sorts the freight !

Wherever your yards and right of way lie within city limits and close to residential or business districts, quiet operation is a vitally important factor in your public relations.

Maxim Silencers make it possible for you to use powerful Diesels in switching and main line locomotives — so quietly that engine exhaust can hardly be heard above the rumble of the wheels.

Illustrated above is the Maxim Exhaust Manifold Silencer, which replaces the conventional exhaust manifold. It provides the advantage of space saving while effectively silencing Diesel exhaust noise.

Standard Maxim Silencers are also serving the country's railroads; often — in fire hazard areas such as refineries, ordnance plants and the like — equipped with the Maxim Spark Arrestor.

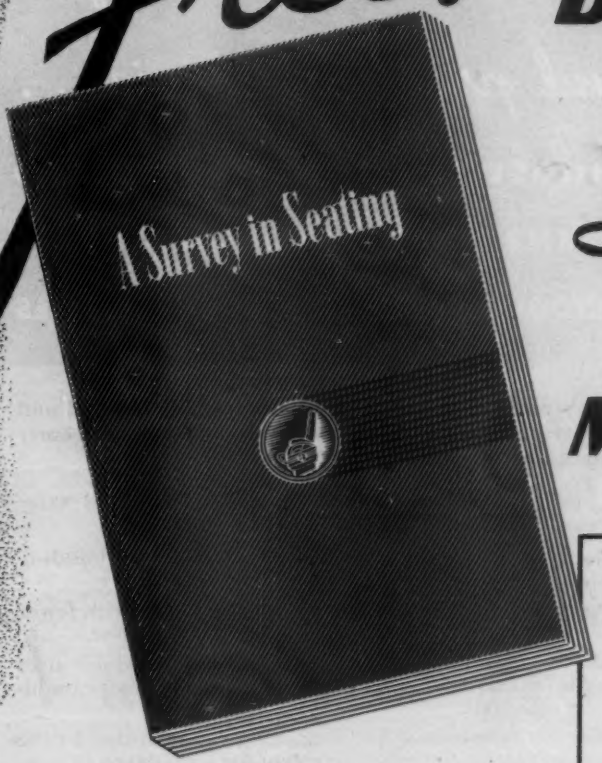
New possibilities in railroad operation are opened by Maxim Heat Recovery Silencers, which combine effective silencing with production of steam or hot water for heating. The spark arrestor feature may also be included if required.

Heat Recovery Silencer Bulletin WH-101 contains information of interest to the forward-looking railroad executive. May we send you a copy?

MAXIM

THE MAXIM SILENCER CO. • 64 HOMESTEAD AVE., HARTFORD, CONN.

Free!



DR. HOOTON'S BOOK ON *Standard* SEAT MEASUREMENTS

HEYWOOD-WAKEFIELD COMPANY
Gardner, Massachusetts

Please send me a copy of Dr. Hooton's A SURVEY IN SEATING. I understand this is free.

Name.....

Railroad..... *Position*.....

Street..... *City*..... *State*.....

RA 9-8-45

DR. EARNEST A. HOOTON'S study of body measurements is now in book form. It is made available *at no cost* by Heywood-Wakefield as a service to the railroad industry.

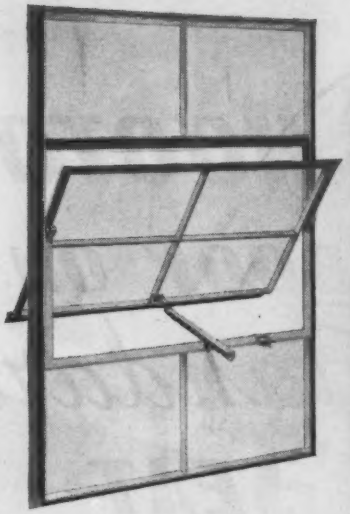
● Heywood petitioned Harvard University to have its eminent anthropologist conduct this survey because railway seat comfort always *varied greatly* due to an inconsistency of measurements. Heywood was *determined* to find those dimensions in seat construction that would bring about the *greatest comfort* to the majority of passengers. *That we have succeeded* is borne out by the fact that the Car Construction Committee of the American Association of Railroads *approved* the dimensions tabulated by Dr. Hooton.

● Just fill out and send the above blank to us for your copy of this report. It is *free*.

HEYWOOD-WAKEFIELD

Established 1826 • Gardner, Massachusetts

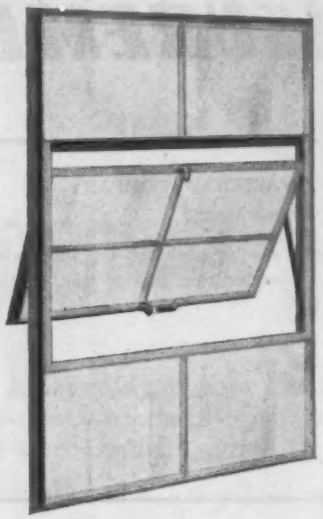
TRANSPORTATION SEATING DIVISION



Truscon Pivoted Steel Windows—low-priced, sturdy, long-lasting, weather-tight and easy to operate.

For architectural effect and practical service . .

CHOOSE TRUSCON PIVOTED AND COMMERCIAL PROJECTED STEEL WINDOWS IN THE NEW MODULAR SIZES



Truscon Commercial Projected Steel Window — for office structures where adequate screening and shading are important.

(Our wartime obligations are being rapidly fulfilled and Reconversion Plans now in progress promise early resumption of production.)

● Use these advantages for greater efficiency and value in your railway, industrial and office buildings:

New glass sizes accentuate horizontal lines for building designs.

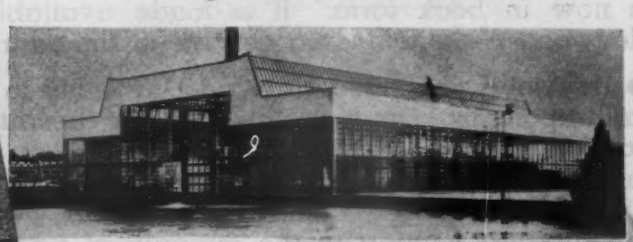
Larger glass lights provide same glass area with fewer panes to be glazed, thus reducing glazing labor.

New window sizes are coordinated with modular sizes of brick, stone, masonry blocks, and other major building materials.

Greater freedom of building design is provided by the use of same muntin arrangement for either type of window, permitting them to be used harmoniously together in the same elevation if desired.

All Truscon Industrial Windows are interchangeable in the same openings, thus the selection of the kind of window may be changed without redrawing plans.

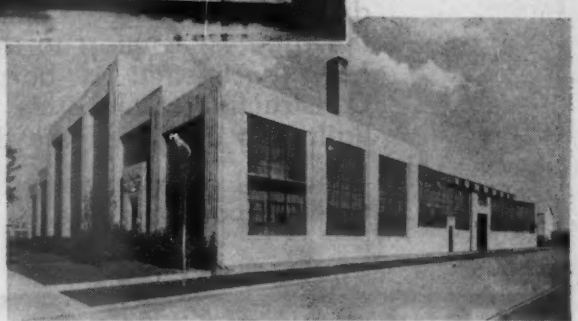
Write for our new folder (A-611) giving complete details and types and sizes. Our experienced engineers will be glad to help plan your use of windows to maximum daylight and ventilation.



Truscon Pivoted and Commercial Projected Steel Windows in Ohio Steel Foundry Company Building, Lima, Ohio.

Truscon Pivoted and Commercial Projected Steel Windows in the Electro-Motive Corporation Building, McCook, Ill.

Truscon Pivoted and Commercial Projected Steel Windows in the Clearing Machine Corporation Bldg., Chicago.



TRUSCON *Steel Company*

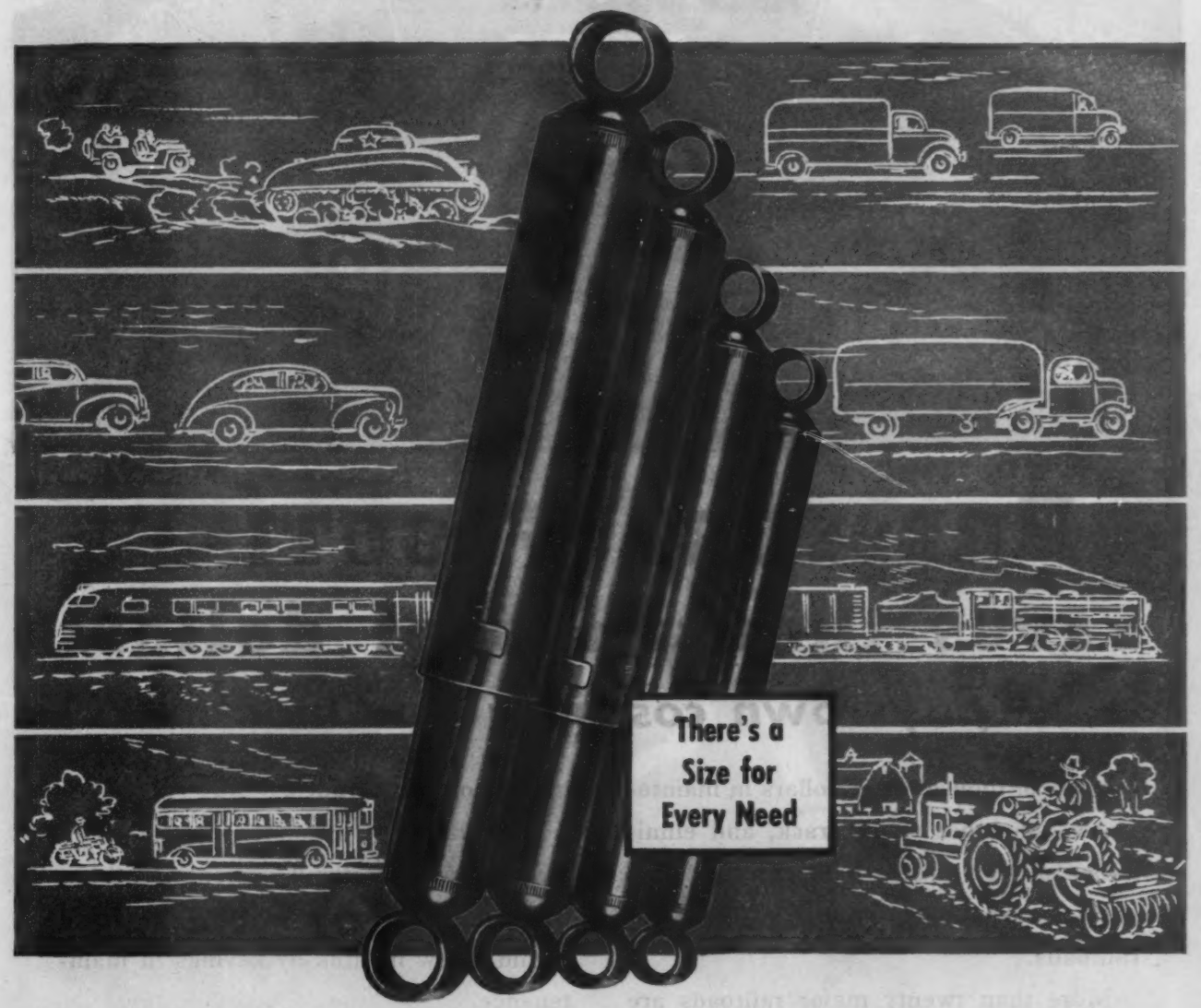
YOUNGSTOWN 1, OHIO

Subsidiary of Republic Steel Corporation

Smoothing and Improving the Ride

IN PEACE & WAR • ON HIGHWAY & RAILWAY • ON BATTLEFIELD & FARM

MONROE DIRECT-DOUBLE-ACTION *HYDRAULIC* SHOCK ABSORBERS

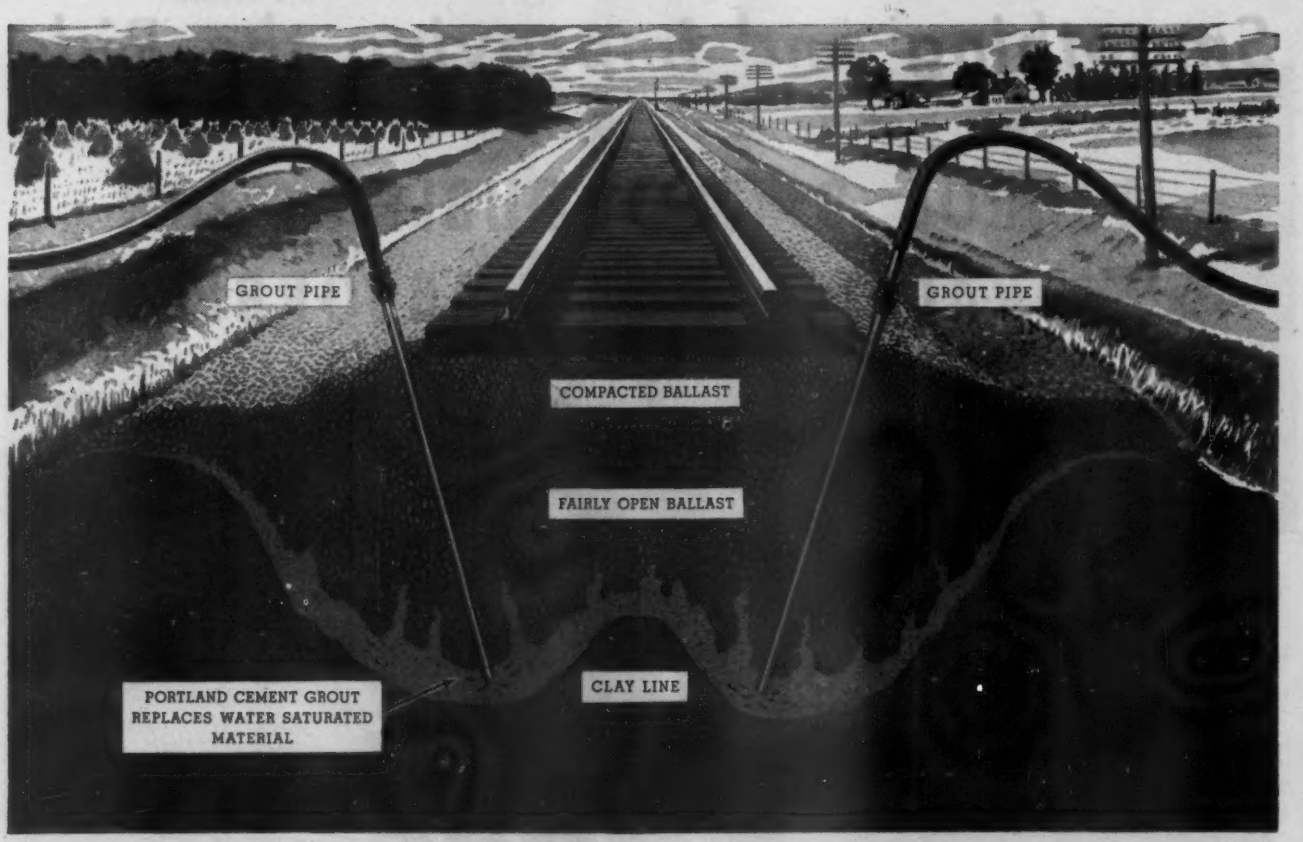


In every line of endeavor there is always one "best," one product that sets the standard of quality, one organization recognized as the source of innovations, of most advanced design, of finest construction. In the field of Hydraulic Shock Absorbers for smoothing and improving the ride in motor vehicles and railway cars, that leader is Monroe. Monroe Direct-Double-Action *Hydraulic* Shock Absorbers have been standard on leading American cars, trucks and railway passenger cars. In the war they proved their superiority on motorized vehicles from Jeeps to great tanks. Today, the experiences gained in this hard, critical service is reflected in even finer Monroe Products.

Patents Make Jobs

MONROE

2473



PRESSURE GROUTING
saves thousands of dollars
—*pays own cost in a few months*

Savings of thousands of dollars in maintenance, smoother riding track, and elimination of slow orders have resulted from pressure grouting of subballast on major railroads.

More than twenty major railroads are now using this simple, positive method of eliminating water pockets or soft spots and increasing the load-carrying capacity of troublesome subgrades.

In nearly every instance where pressure grouting with portland cement has been tried, the entire cost has been returned within a few months by savings in maintenance.

Write for copy of *"Stabilizing Railroad Track by Pressure Grouting."* Free in United States and Canada.

Portland Cement Association

Dept. A9b-26, 33 W. Grand Ave., Chicago 10, Illinois

A national organization to improve and extend the uses of concrete . . . through scientific research and engineering field work

BUY AND KEEP MORE VICTORY BONDS

ars

pressure
as been
returned
n main-

Railroad
Free in

ion

g field work

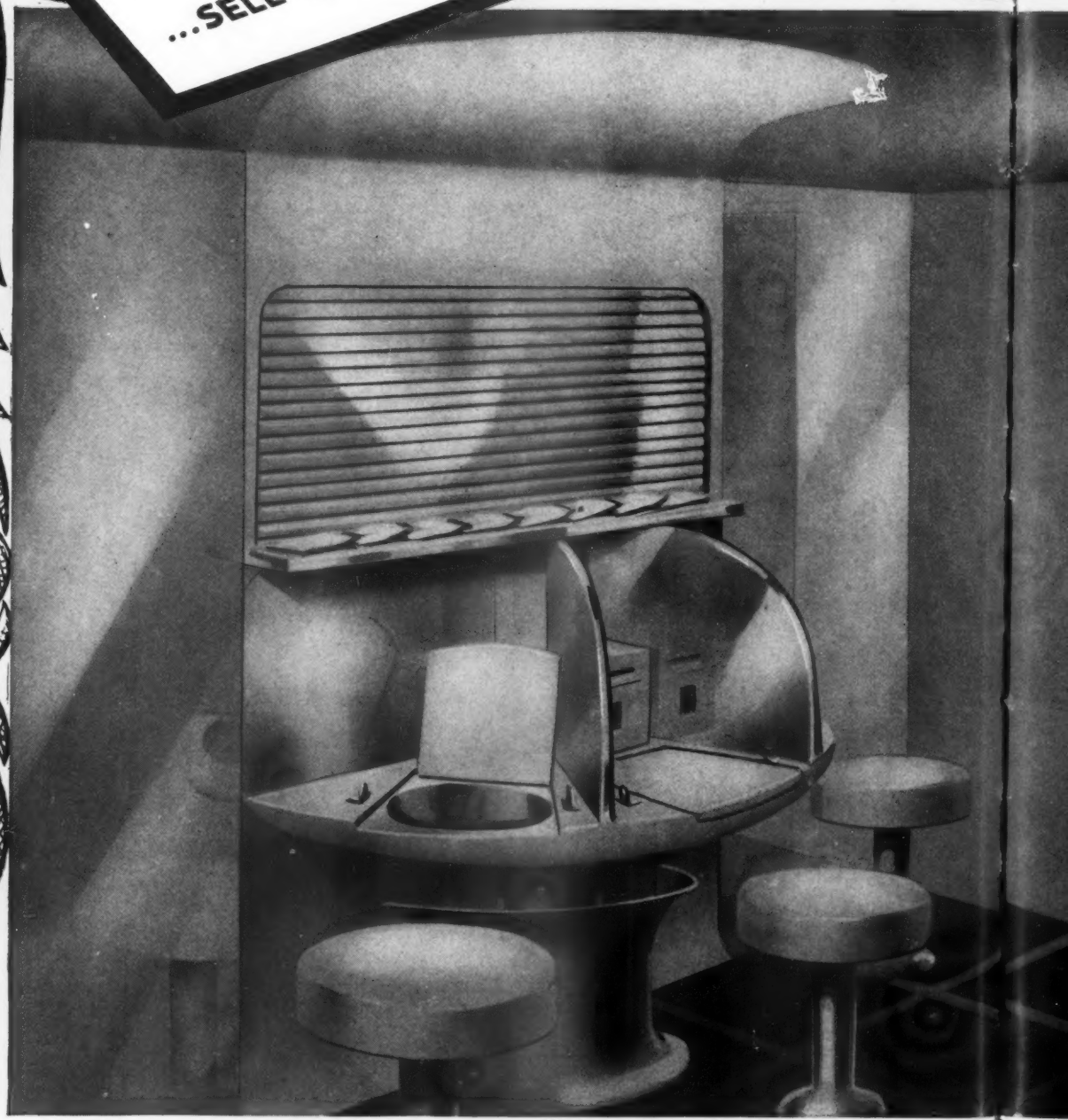
"STREAMLINE

WASHROOM FACILITIES"

***...say* PASSENGER POLLS**

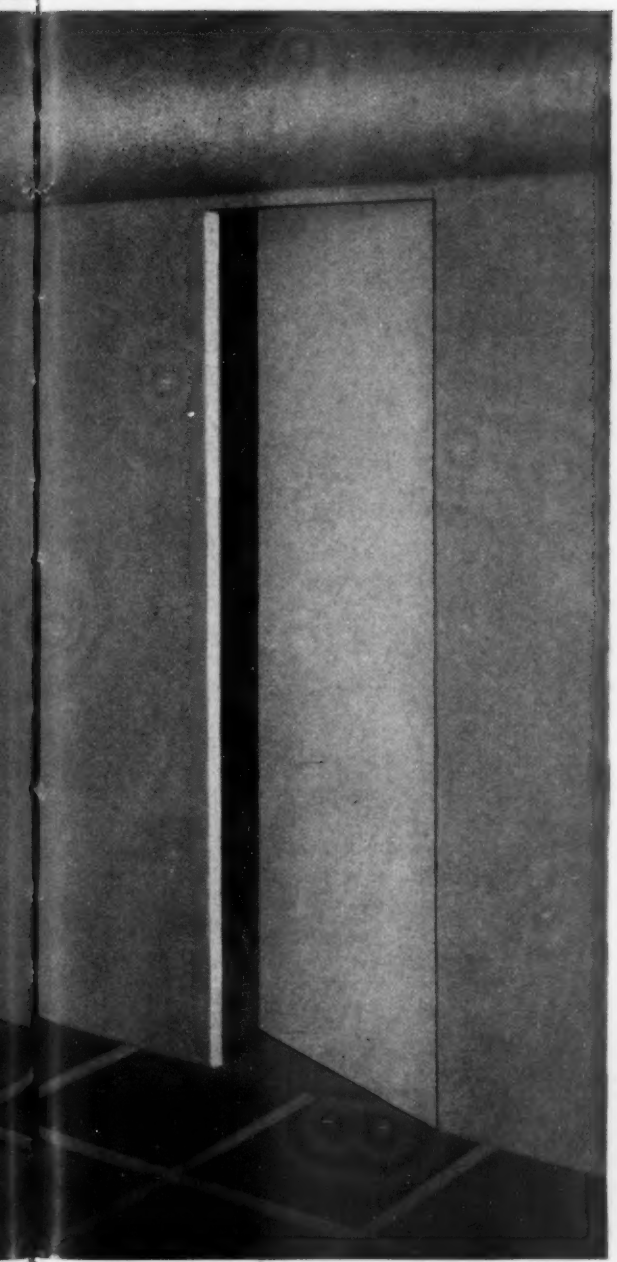
a.c.f. *Slumberliner* POINTS THE WAY

WASHROOM ADVANCES SAVE SPACE
...SELL TRAVEL BY SMART STYLING!



American Car and Fo

NEW YORK • CHICAGO • ST. LOUIS •
PHILADELPHIA • PITTSBURGH • ST.



LIKE A SMART SALON

The ladies' compartment on the new car features a semi-circular, combination ***wash-up*** and ***make-up*** table which can accommodate three with ample elbow room. When the lids over the wash basins are folded up, the fixture becomes a washstand. When the lids are down, the ladies face vanity dressers with wing mirrors, shelf for towels, cake of soap dispensers and facial tissue dispensers, built in individually behind each basin.

Foundry Company

• CLEVELAND • WASHINGTON

ST. PAUL • SAN FRANCISCO

The Men, Too

THREE or four washstands take care of the morning crowds—fold back ***out of the way*** and ***out of sight*** when traffic tapers off. In their stead appears a comfortable three or four seat couch — and the compartment becomes a complete smoking lounge. Arm rests prevent one passenger from stretching out and monopolizing the couch or scuffing the covering — yet are collapsible when unlocked to provide an emergency, full-length divan for the ill or indisposed traveler. Also in the compartment are two chairs, table at window and a standard fixed-type wash basin.

On the Slumberliner, all plumbing is centralized and completely hidden. Sanitary coves between floor and side walls eliminate all hard-to-clean corners and reduce maintenance.

Watch for further details of the Slumberliner in subsequent issues of this publication

a.c.f.

American Car and Foundry Company

Whatever A.C.F. builds — it is known to build well

The 1,600-ton, 420-foot long vertical lift span in its raised position provides a channel width of 400 feet and a vertical clearance above low water of 70 feet for navigation. In its closed position the normal clearance above low water is 34 feet, so that the total movement of the span is 36 feet. The three story operating house may be seen on the right-hand pier.

NEW TYPE LIFT SPAN FEATURES HARRY S. TRUMAN BRIDGE

The bridge consists of three 250-ft. through truss spans, one 420-ft. through truss vertical lift span, 18 deck plate girder spans of 78 feet and one plate girder span of 45 feet. It was designed and the construction supervised by Howard, Needles, Tammen & Bergendoff, consulting engineers.

THE HARRY S. TRUMAN BRIDGE crossing the Missouri River at Kansas City, Mo., is the major element of an outstanding railroad relocation project. Undertaken jointly by the Chicago, Milwaukee, St. Paul & Pacific Railroad Company and the Chicago, Rock Island & Pacific Railway Company, it provides a more direct routing of rail traffic through Kansas City, and permits faster-scheduled operations for transport to the West Coast.

This imposing bridge, first opened to traffic on June 1, 1945, is a single track structure with a total length of 2,633 feet. Its dominating 420-foot vertical lift span over the navigation channel is electrically operated by remote control from a 3-story operating house located on one of the end piers. A gasoline power unit is available for emergency operation in case of electrical power failure.

The unusual features and engineering developments which are embodied in the design and construction of the Harry S. Truman Bridge, contribute to the lasting strength and ruggedness demanded by today's and tomorrow's heavy freight tonnage, great traffic density, and high speed operations.

The completed ready-for-traffic superstructure—including all structural steel; sheaves, ropes, counterweights, machinery, electrical equipment and housings for operating the lift span; laying of ties, tracks, footwalks and railing for the completed railway deck—was under contract to American Bridge Company.

War projects such as this point the way to the postwar problems facing America's railroads — for "better railroading" is here to stay. And when their postwar plans of roadbed rehabilitation shape up, American Bridge will be prepared to meet their every structural need.

AMERICAN BRIDGE COMPANY

General Offices: Frick Building, Pittsburgh, Pa.

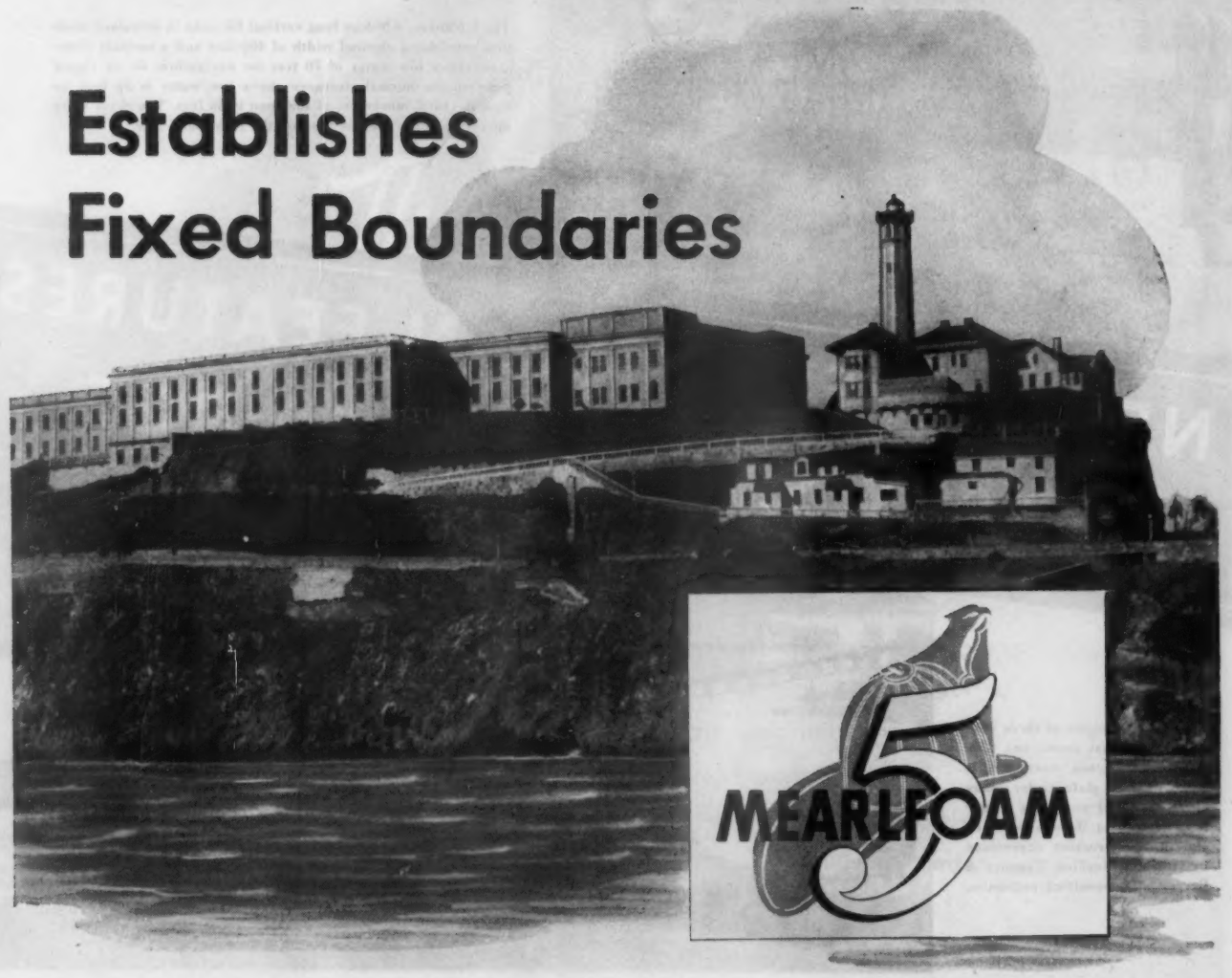
District Offices in: Baltimore · Boston · Chicago · Cincinnati · Cleveland · Denver · Detroit
Duluth · Minneapolis · New York · Philadelphia · St. Louis

Columbia Steel Company, San Francisco. *Pacific Coast Distributors* United States Steel Export Company, New York

AMERICAN BRIDGE COMPANY · USS STEEL · UNITED STATES STEEL

UNITED STATES STEEL

Establishes Fixed Boundaries



WASHED by the waters of San Francisco Bay, the "Rock" is law and order's way of establishing fixed boundaries for offenders. And in no less positive manner, a ring of MEARLFOAM-5, the war-born, blended multi-protein mechanical (air) foam deprives fire of its freedom and establishes its fixed boundaries, too.

When MEARLFOAM-5 puts out the infernos of blazing gasoline and oil fires they stay *put out*. Should any rupture or break occur in the dense foam blanket as the result of shipboard pitch or falling debris . . . this live, long-lasting foam remains mobile and the rupture automatically heals. Even when the blanket of MEARLFOAM-5 has aged it still retains its fire-resistance. For example:—when after aging, a hole deliberately is cut in the foam blanket (for demonstration purposes) and the gasoline or oil is reignited, the surrounding blanket confines the fire and prevents its spreading beyond the foam-circled area.

The many unique and dependable properties of MEARLFOAM-5 are the sole reasons the U. S. Navy uses it extensively for preparedness . . . and for the quick extinguishment of raging gasoline and oil fires on shipboard and at shore bases. MEARLFOAM-5 is the veteran of many successful engagements, and one day will demonstrate to all—the super effectiveness of mechanical (air) foam as the most successful, modern method for combatting gasoline and oil fires. MEARLFOAM-5, after putting fire out—*keeps it out*... totally eliminating the flash-back hazard which in the past has taken such a terrible toll of lives and property.

MEARLFOAM-5 is a good-mixer—with any type of water. It works at maximum efficiency in any climate or atmospheric condition. So that—when split-seconds count—you can rely on MEARLFOAM-5 to put fire out fast—to keep fire out *permanently!*

A one-page condensed data sheet detailing the unique properties of this war-born fire-fighting foam is now available on request. Please ask for it.

Completely safe and non-corrosive—may be used with standard Mechanical Foam-Forming Equipment

FOAM ON FIRE OUT... Stays OUT!

THE MEARL CORPORATION
153 Waverly Place, New York 14, N.Y.

Modern STEEL CASTING METHODS
Modern MACHINING FACILITIES

These 28" ball-and-socket joints for a pontoon dredge line very aptly illustrate two vital aspects of PSF production: the inherent soundness and uniform structure of PSF steel castings; and the close-tolerance machining and expert assembly work that are a strong part of the service we're equipped to render. PSF's advanced foundry techniques and laboratory controls, amplified by complete and highly modern finishing facilities, constitute a background for true quality work—steel castings that will meet the most exacting conditions your jobs may impose. • Let us figure on your casting requirements.

47 YEARS OF STEEL CASTING KNOWLEDGE

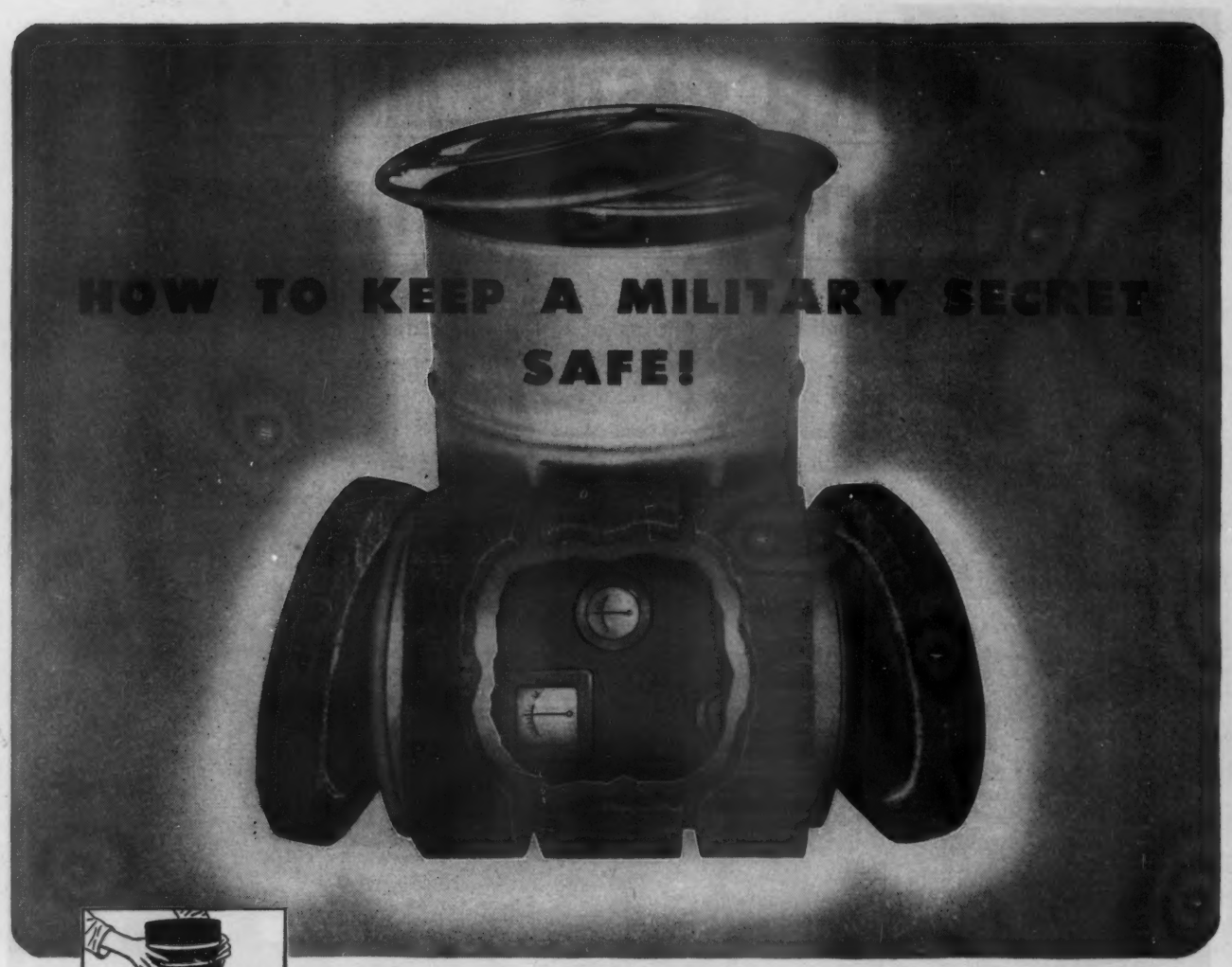
Pittsburgh

STEEL FOUNDRY CORPORATION

GLASSPORT, PA. **Pittsburgh Spring and Steel Division, Pittsburgh, Pa.**

W & D 9000

Sales Offices: NEW YORK • PHILADELPHIA • CHICAGO • CLEVELAND • CINCINNATI • AKRON • WASHINGTON • ST. PAUL • SAN FRANCISCO



The Texlock - cushioned inner container is placed in a steel drum and the lid sealed with a Spongex* Gasket.

Safe and snug—it takes the shocks of transportation.

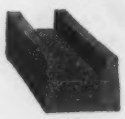
Texlock packaging with the sealed container resists all climatic conditions.

Many an intricate and fragile mechanism – secret and vital to military use – is now packaged and shipped to desert, jungle or arctic destination as matter-of-factly as any shipment of canned goods. Efficient, constant protection against shocks of travel and varying climatic hazards is assured by Texlock* – the modern, pre-tailored packaging material.

Texlock – rubberized hair or bonded fibre – is lastingly resilient. It is unaffected by moisture, heat or cold – will not become brittle, bunch up or shift about. It can be pre-tailored to closely cradle any shape, size or weight of article and to fit into any case, carton or container. It may be used repeatedly for shipping new, or returning worn or damaged parts or assemblies.

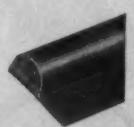
The idea illustrated here – plus a host of other Texlock uses for cushioning, packing and space-filling—may be the answer to your packaging problems, wartime or peacetime, domestic or export. Write for samples, describing your specific problem. Sponge Rubber Products Co., 121 Derby Place, Shelton, Conn. Plants in Derby and Shelton, Conn. Sales Offices: New York, Chicago, Washington. Detroit.

* Trade Mark



Full and half-round cord or tubing and molded strips in various shapes for any sealing or gasketing job.

Spongex is a resilient, flexible, blown form of rubber available in soft, medium and firm densities.

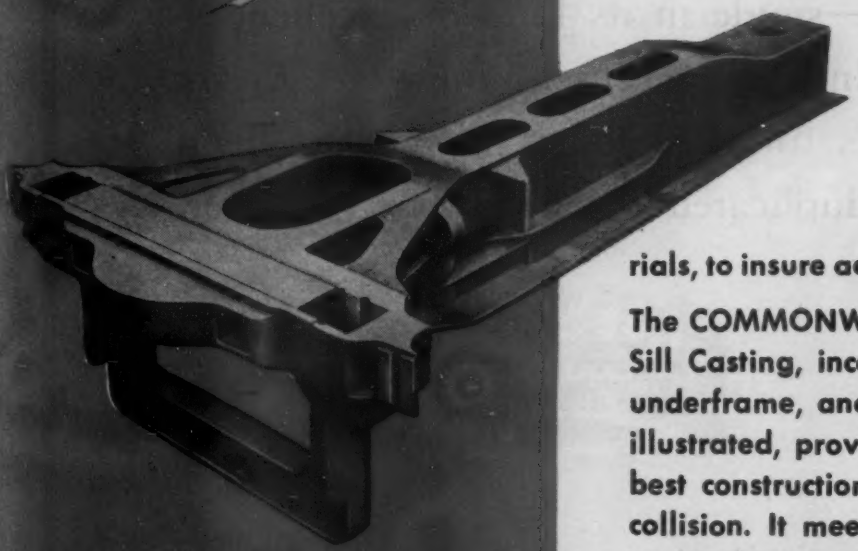


SPONGE RUBBER PRODUCTS CO.

WORLD'S LARGEST MANUFACTURER OF CELLULAR RUBBER AND BONDED FIBRE PRODUCTS

COMMONWEALTH
One-Piece Platform
Center Sill Castings —

—Assure Strong, Safe Passenger Cars



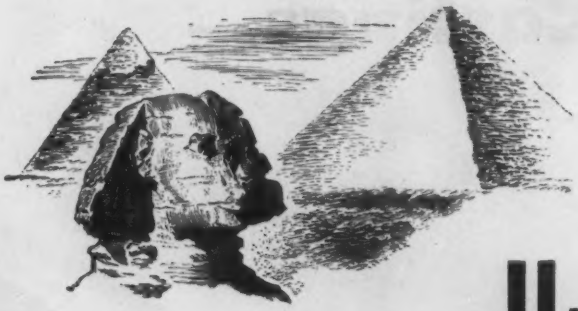
THE introduction of high-speed, modern, lighter weight passenger trains has necessitated important changes in the construction of passenger cars, both in design and materials, to insure adequate strength with less weight.

The COMMONWEALTH cast steel Platform Center Sill Casting, incorporated at each end of the car underframe, and connected to the center sill, as illustrated, provides the simplest, strongest, and best construction, minimizing damage to cars in collision. It meets all required safety standards and achieves *great strength without an increase in weight.*

COMMONWEALTH Underframe End Castings are also provided with the body bolster cast integral and, if desired, can be arranged for Buffing Device.

GENERAL STEEL CASTINGS

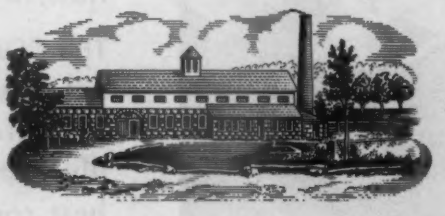
EDDYSTONE, PA. • GRANITE CITY, ILL.



Unique

In advertising, many products are described as *unique*—although few actually are. For *unique* means "without a like or equal—unmatched—single in its kind or excellence." In the true sense of the word, *Kerite* is unique—for it has never been duplicated by any other producer.

1854



1864

The Kerite Insulated Wire & Cable Company, Inc.

NEW YORK CHICAGO SAN FRANCISCO

PIONEERS IN CABLE ENGINEERING

ASSEMBLY—TIGHTER JOINTS

FOR FASTER

Accurate Dimensions
Cleanly Threaded
Uniform Strength

Oliver TRACK BOLTS

Oliver Track Bolts have the qualities you need for your track fasteners today. They are accurate in dimension, uniform in material, cleanly threaded. They fit right, pull up tight, hold firmly.

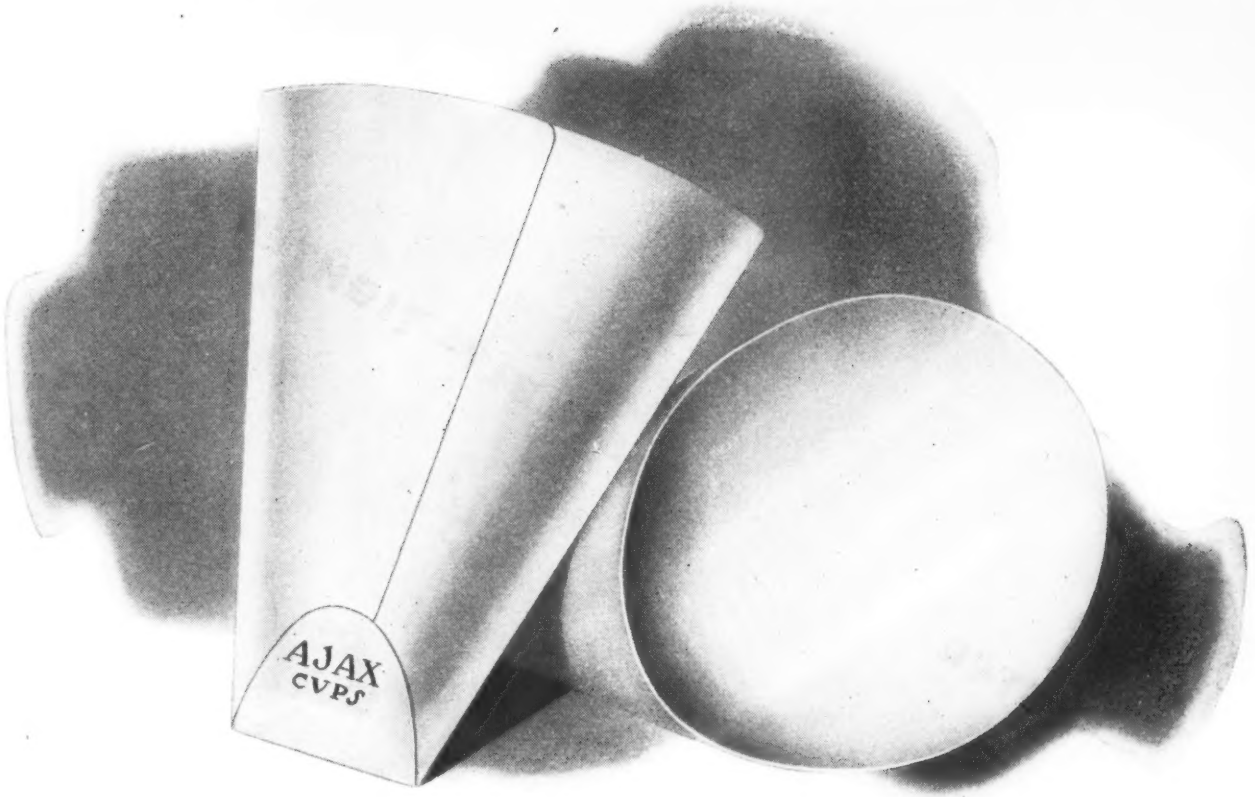
Because you need good, firm track joints to maintain your tracks in condition for today's overloaded trains and heavy schedules, your choice of track bolts can have an important bearing on the entire operation of your road. You *need* the best!

Oliver Track Bolts and Nuts are of highest quality. Since 1863, Oliver has been making bolts, nuts, rivets and threaded products for the railroads—and today they are made by modern methods under careful quality control.

For complete satisfaction, specify OLIVER!

OLIVER
IRON AND STEEL
Corporation

SOUTH TENTH AND MURIEL STREETS · PITTSBURGH, PENNSYLVANIA



WHY AJAX CONTINUES TO BE THE IDEAL PAPER DRINKING CUP FOR RAILWAY DRINKING WATER SERVICES . . .

1. *It's passenger proved!* In other words, anyone can withdraw an AJAX from its dust-tight dispenser, fill it with water, and drink easily and naturally . . . even on moving trains.

The hand grasps the cup, which is open and ready for use. The oval shape fits into the hand naturally. Genuine AJAX cups have no side crease. The bottom of the cup, specially constructed to prevent leakage, provides a firm base for holding the cup with no danger of the filled cup slipping through or out of the hand. The cup can be used from any side without "nose interference."

The No. 4 AJAX holds sufficient water for a satisfying drink without waste.

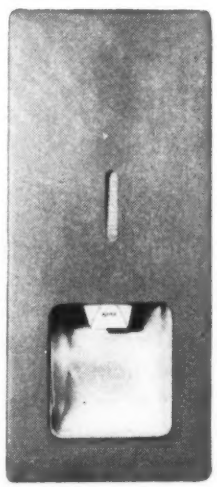
These are all vital considerations, of first importance when choosing paper cups for railway water service.

2. *It's railroad proved!* AJAX cups are delivered to you — nested — 250 cups in each dust-tight carton. The AJAX dispenser, made of steel, attractively designed, of unit construction with no parts to break or fittings to become lost, is filled directly from the carton, thereby eliminating handling of the cups themselves. This means "ultra-clean" cups for your passengers.

C-21-P

* * *

Years of Railway experience and service enables us to cooperate with you intelligently in adapting our dispensers to your postwar car designs. Plan with AJAX Drinking Cups and Dispensers and you will plan with the best.



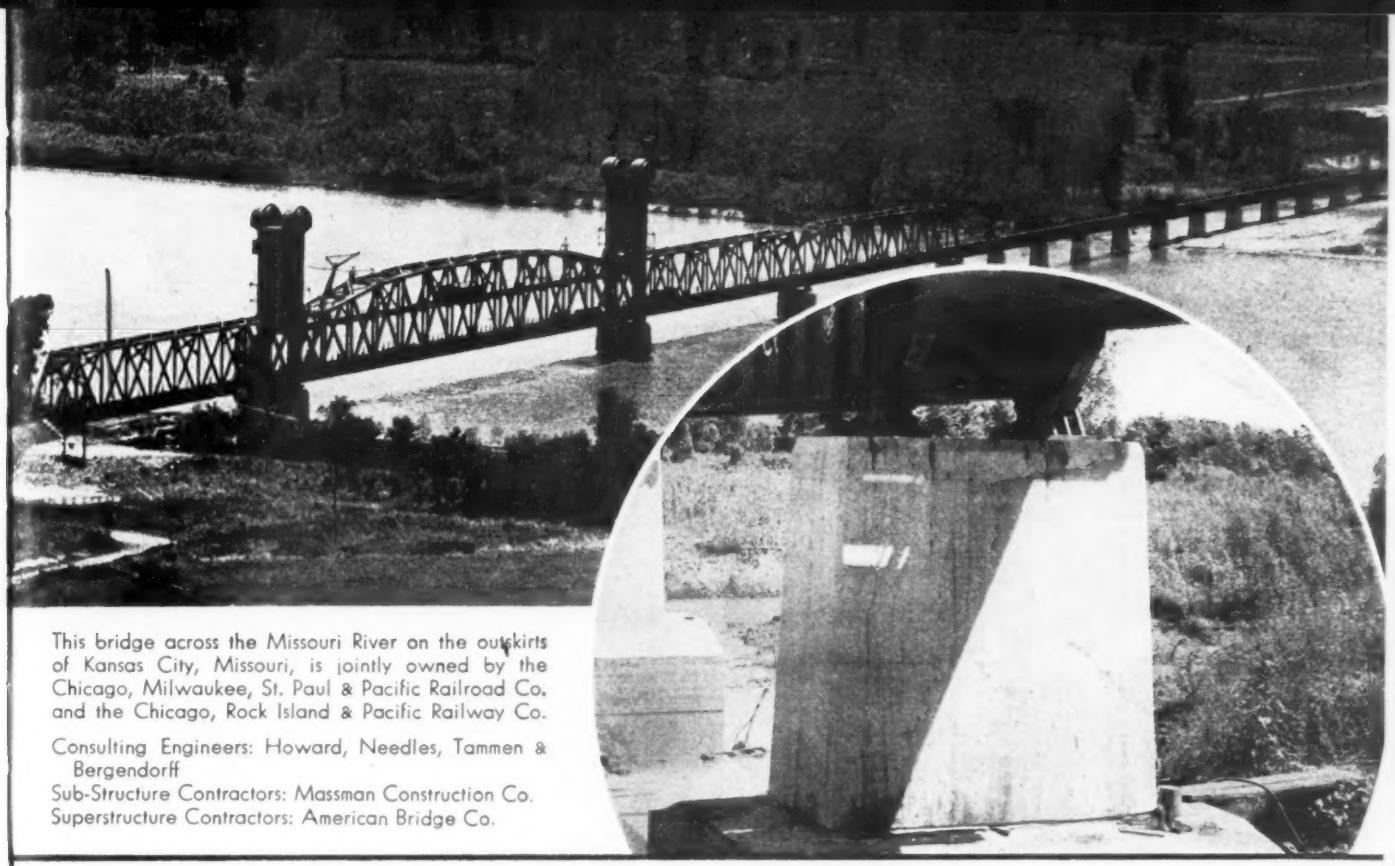
AJAX Recess Dispenser, Deluxe Panel Type, for car walls or doors. Displays cup ready for use. Easily refilled.

LOGAN DRINKING CUP CO., Division
68 Prescott Street, Worcester 5, Mass.

PACIFIC COAST ENVELOPE CO., Division
416 Second Street, San Francisco 7, Calif.

Divisions of United States Envelope Company

AJAX Paper Drinking Cups



This bridge across the Missouri River on the outskirts of Kansas City, Missouri, is jointly owned by the Chicago, Milwaukee, St. Paul & Pacific Railroad Co. and the Chicago, Rock Island & Pacific Railway Co.

Consulting Engineers: Howard, Needles, Tammen & Bergendorff
Sub-Structure Contractors: Massman Construction Co.
Superstructure Contractors: American Bridge Co.

PRESIDENT HARRY S. TRUMAN BRIDGE MARKS ENGINEERING PROGRESS...

MODERN in every respect, the recently dedicated Truman Bridge embodies the latest developments in bridge design . . . the latest *proved* development in concrete design — *cement dispersion.*

In the Truman Bridge, as in hundreds of other important projects involving millions of yards of concrete, Pozzolith, cement dispersion, was employed to provide the desired strength with increased durability.

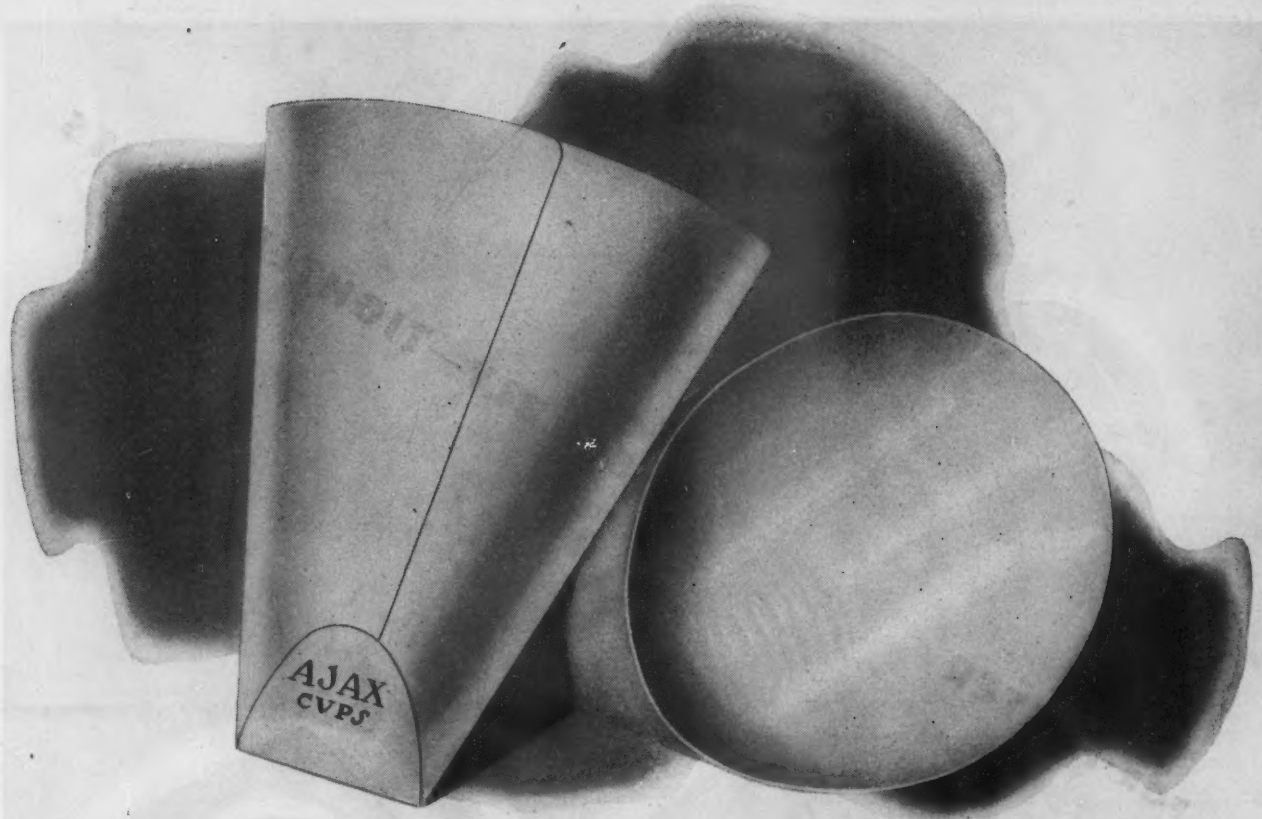
Knowing from long experience confirmed by exhaustive tests by the Nation's top authority, that the action of *cement dispersion* reduces water-cement ratio up to 15%, the builders of this bridge turned to Pozzolith for not only increased strength and durability, but also improved workability.

If you are interested in new concrete standards with Pozzolith, write for information . . . today.

THE MASTER BUILDERS COMPANY
CLEVELAND 3, OHIO • TORONTO, ONTARIO

The Trend Is Toward . . .

POZZOLITH
CEMENT DISPERSION



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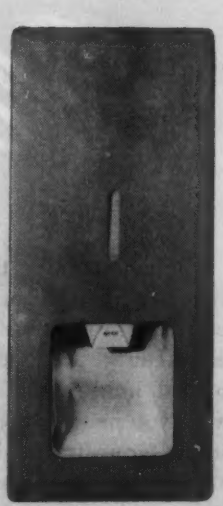

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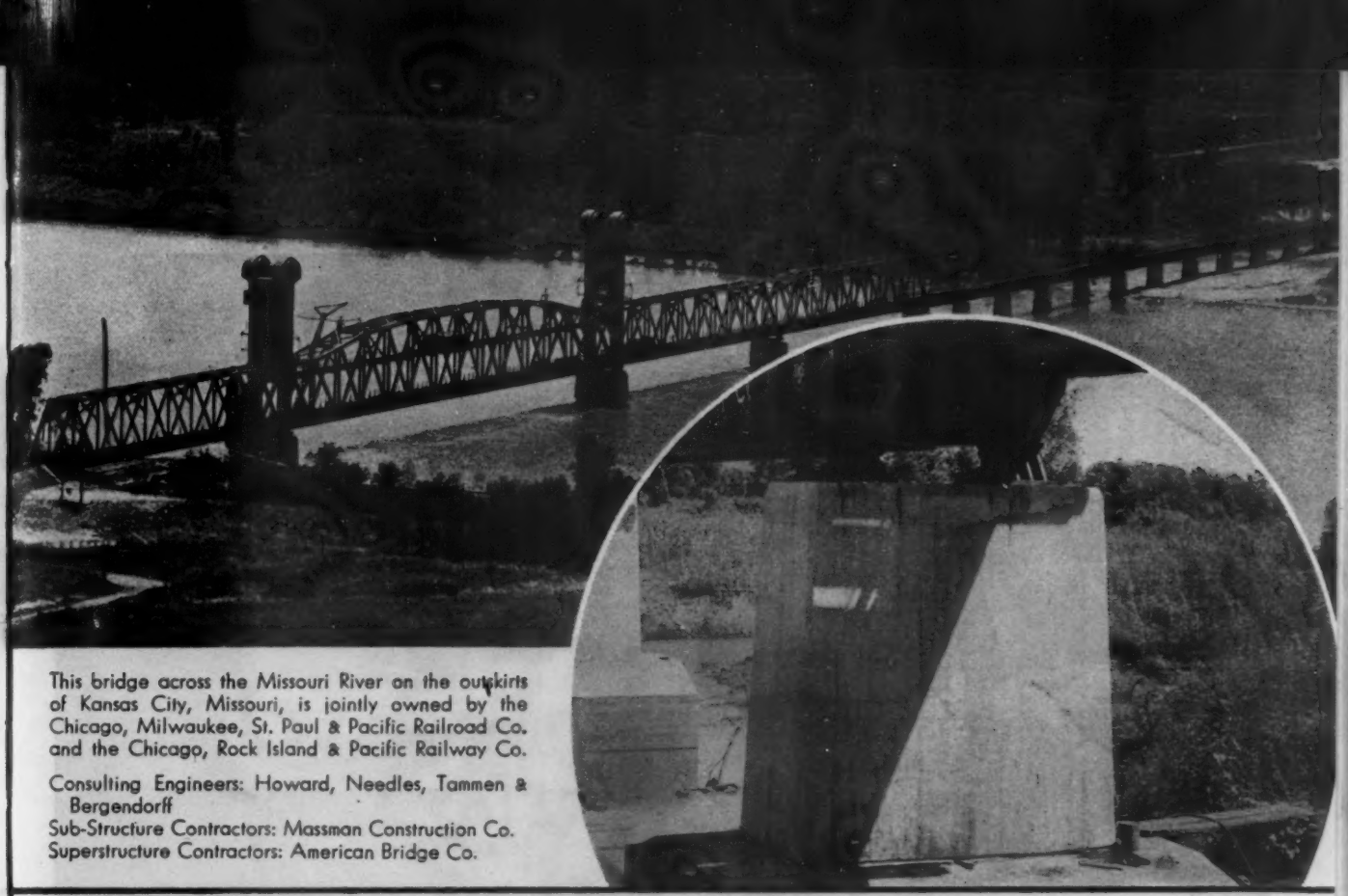

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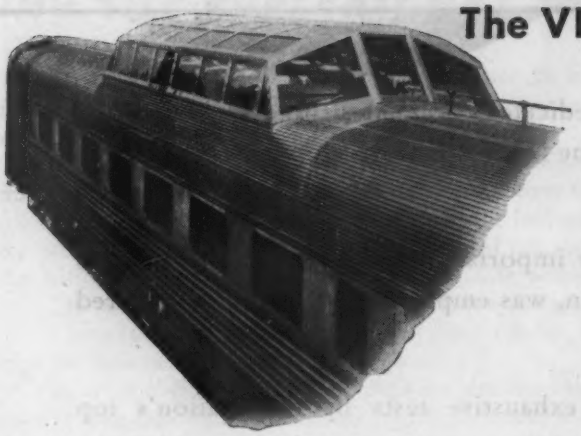
THE MASTER BUILDERS COMPANY
CLEVELAND 3, OHIO • TORONTO, ONTARIO

The Trend Is Toward . . .

POZZOLITH
CEMENT DISPERSION

Opening New Horizons for Passengers



Tribute goes to the Electro-Motive Division and to the General Motors Corporation for the VISTA-DOME idea. Additional tribute to the Burlington for the actual building and operation of the first car, which adds another milestone to the Burlington record of progress.

The VISTA-DOME Car on the Burlington

A revolutionary new development opens up a new horizon for passenger travel—the VISTA-DOME offers a new conception of travelling.

The Burlington added this VISTA-DOME to a car in their Aurora shops. The heating and air conditioning controls were engineered by VAPOR. The entire new VISTA-DOME required only a simple zone as an addition to the heating equipment on the car.

On your postwar cars let Vapor engineer the heating!

From the simplest coach layout to the full advantages of a VISTA-DOME car, Vapor engineered heating layouts provide for full temperature comfort to all passengers at all times, with a minimum of equipment and a maximum of comfort, economy and reliability.

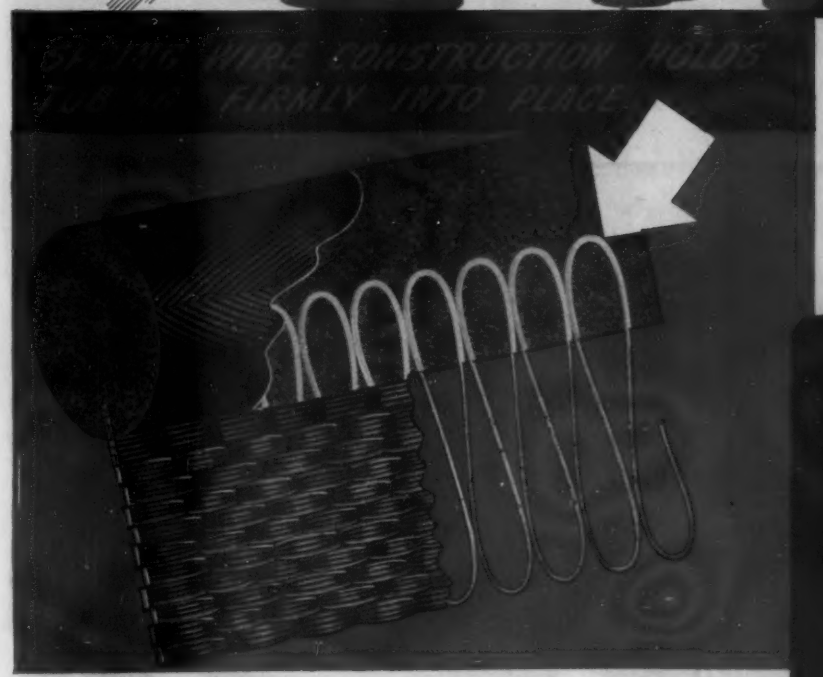
VAPOR CAR HEATING CO.

RAILWAY EXCHANGE

BE SURE IT'S GENUINE VAPOR ENGINEERED — VAPOR SYSTEM — GUARANTEED EFFICIENCY

CHICAGO 4, ILLINOIS

Inner Seal
FOR
COMPLETE PROTECTION



For

- AIRCRAFT
- RAILROADS
- SHIPS, HOMES
- TRUCKS, CARS
- REFRIGERATION

All the good features of older types of weather-strip . . . plus built-in rustless spring wire construction in live sponge rubber . . . make INNER-SEAL protection against cold, dust and rain complete . . . the protection you've been looking for. Available in a wide variety of sizes and colors to meet every weather-proofing need. Write for samples and details of INNER-SEAL today.

Inner Seal
WEATHER STRIPPING

BRIDGEPORT FABRICS, INC.

Established 1837

BRIDGEPORT · CONNECTICUT

You can be Sure of Uniformity and Quality when you Specify Globe !

Extra care in production control assures uniformity and quality in all classes of Globe steel tubes. Unvarying quality is safeguarded and production methods and materials exactly controlled by one of the largest and complete chemical and physical laboratories of its kind, concentrating on tubing characteristics and problems.

You can be sure of uniformity and quality when you specify Globe tubes — pressure, mechanical, or stainless.

GLOBE STEEL TUBES CO., Milwaukee 4, Wis., U.S.A.

GLOBE STEEL TUBES

5019

GLOBE TUBES

- ★ Pressure Tubes
- ★ Condenser & Heat Exchanger Tubes
- ★ Seamless Stainless Steel Tubes
- ★ Mechanical Tubing
- ★ Gloweld Welded Stainless Steel Tubes
- ★ Globeiron High Purity Iron Seamless Tubes

OVAL STEEL COLLAR DOES THE LOCKING—NUT TAKES ALL THE LOAD!

DO YOU USE EITHER OF THESE BOLT FASTENERS? 1-CASTELLATED NUTS 2-ORDINARY LOCK NUTS

Save Money!
Save Time!

GET BETTER, SAFER LOCKING ACTION WITH SECURITY LOCKNUTS

SEND FOR FREE SAMPLE FOR ACTUAL TEST

SIZES:

National Course,
½ - ⅝ - ¾ - ⅞ - 1

National Fine,
½ - ⅝ - ¾ - ⅞ - 1

● Cut installation and maintenance costs to the bone! *Security* Locknut *does everything* the *castellated nut* does and yet there is *no* hole to drill..*no* cotter key to bother with..*no* separate parts to handle and store..*no* special tools required to apply or remove..*no* fixed positions of adjustment..*no* unfinished appearance or ragged projections to snag flesh or clothing!

Security Locknut *does everything* the *ordinary locknut* does and in addition provides (1) positive isolation locking and (2) re-use without selective fitting. *Does not require bolt tension.*

When you use *Security Locknuts* your bolt fastening problems are solved—they save you money... they're *easy to apply, easy to adjust*... and they *stay put* until you take them off! Vibration *can't* shake them loose. Investigate this better, safer bolt fastener at our expense, *without obligation.* Give Security Locknut your toughest test job. Write for *free* samples and prices!

SECURITY LOCKNUT CORP., Dept. 961, Chicago 5, Illinois
A SUBSIDIARY OF C. G. CONN LTD., ELKHART, INDIANA

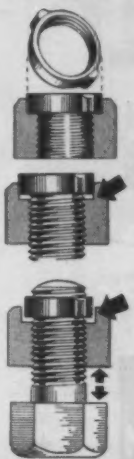
ISOLATION LOCKING PRINCIPLE!

When Security Locknut is applied to bolt, steel collar becomes completely isolated from nut and is actually *a part of the bolt.* The collar devotes its *entire* strength to gripping the bolt. The nut bears *all* the bolt stress and effects of vibration. The ears of the collar prevent nut from turning. (See sketch at right.)

RE-USE WITHOUT SELECTIVE FITTING!

Because Security's oval, spring steel collar is unusually *RESILIENT,* Security Locknut can be used and *re-used* time and again on any bolt of like size, without loss of effective locking power, *regardless* of maximum or minimum thread diameter tolerance. No matching! Just pick up the nut and apply it with ordinary wrench on any bolt of like size and *it stays put until you take it off!*

HOW ISOLATION LOCKING PRINCIPLE WORKS!



Security is a patented combination of ordinary nut and oval steel collar with ears, fabricated into unit by press fit of oval collar into counterbore in crown of nut.

Threads in collar are misphased so that bolt pushes collar away from bottom of counterbore distance of ¼ to ½ thread before engaging.

Bolt passing through oval collar forces collar into *round,* isolating it from *sides* of counterbore also. Collar is now completely isolated from nut and is tightly locked to bolt.

Nut bears entire load, leaving collar free of load stress. Nut is kept from turning by ears of collar.

When nut is removed from bolt, locking collar resumes oval shape and is again tightly held in counterbore of nut.

Security LOCKNUTS

MAYARI
(RHYMES WITH "FIERY")
STAYBOLT STEELS

BETHLEHEM STEEL

cost you less

Everybody wants lower costs. In staybolt materials, you actually get lower costs with Mayari. But that isn't the only advantage. Look at these other hard-hitting features of Mayari staybolt steels:

- They have considerably higher strength than staybolt materials formerly used. You may specify either 50,000 or 55,000 minimum tensile, as you choose.
- Besides this added factor of safety, you get high fatigue- and shock-resistance, combined with good ductility and machineability.
- Mayari is an easy steel to upset. The heads "button down" tight and clean. The operation takes only a few seconds.

After thorough tests, Mayari staybolt steels have been adopted by a number of the country's representative railroads, and the list is growing all the time. You'll find out why when you give Mayari staybolt steels a trial yourself.

Easy to Find... Easy to Order

WHEN YOU NEED RENEWAL PARTS FOR TRANSPORTATION ELECTRICAL EQUIPMENT...

USE THE WESTINGHOUSE RENEWAL PARTS SYSTEM...EASY TO FIND...EASY TO ORDER

just refer to your Westinghouse Catalog Information or Stock Recommendation Sheets, which include complete data, conveniently indexed.

Remember, when you order Westinghouse Renewal Parts, you receive a part incorporating the latest design and improvement . . . interchangeability . . . and ease of installation.

There are 17 Westinghouse Renewal Parts warehouses strategically located throughout the country, completely stocked for your convenience. The 34 Westinghouse repair plants are also available for repairs to your electrical apparatus.

Call your nearest Westinghouse office or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-15104-A

WESTINGHOUSE RENEWAL PARTS FOR TRANSPORTATION INDUSTRY

- Armature and Field Coils
- Shafts and Bearings
- Brushes and Brushholders
- Commutators and Assembled Segments
- Control Parts
- Control Accessories
- Control Switches
- Type M, TM or MA Resistors

Westinghouse

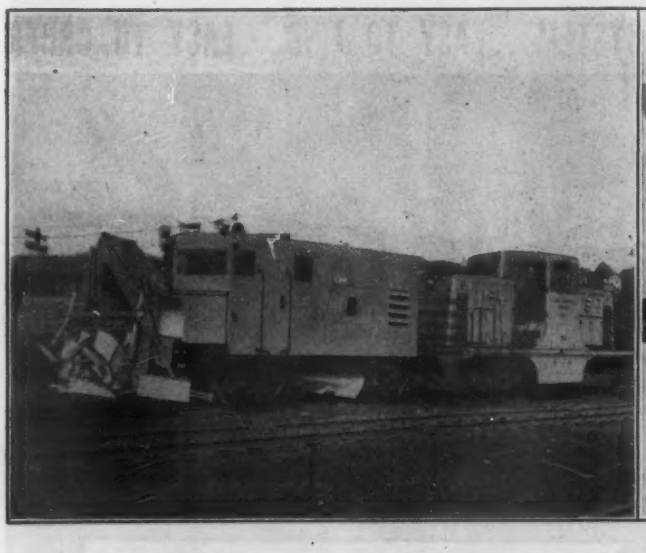
PLANTS IN 25 CITIES... OFFICES EVERYWHERE

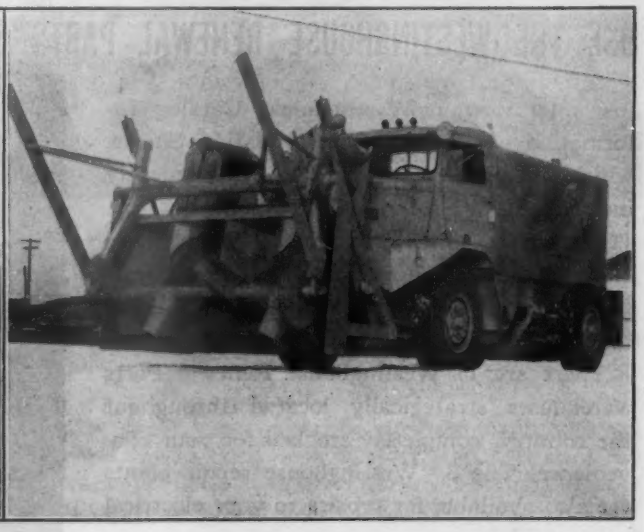
Renewal Parts

MASTER OF SNOW AND ICE

BROS ROTARIES BY THE HUNDREDS were used by the Army to keep military roads and airports open when demands of strategy called for undelayed advances in both Europe and America.

THE NAVY USED BROS ROTARIES to keep the airports open so that the heavy demands of flight transportation could be met daily without needless and costly delays or interruptions.





RAILROADS USED BROS ROTARIES to keep their main lines open and to remove the ice hazard in open stations and in congested switch yards. A loading chute permits side-loading into cars.

CITIES, COUNTIES AND STATES used Bros Rotaries to keep the streets and highways open for the Nation's traffic. Wm. Bros Boiler & Manufacturing Company, Minneapolis 14, Minnesota.

Give us your Snow Problems—we'll give you the answer

BROS

FABRICATORS OF STEEL • BOILERS • STOKERS • TANKS • ROAD EQUIPMENT

IT'S A STRANGER to the SHOP

• This "Caterpillar" Diesel-powered 44-tonner — one of eight owned by the Northwestern — is being used in way freight service out of Elgin, Ill. The others serve mainly in the usual yard and switching capacities at various points on the line.

IN TELLING how the Chicago and Northwestern's eight "Caterpillar" Diesel-powered 44-tonners stay on the job, Assistant Mechanical Engineer D. L. Mills put it thusly: "After one of these locomotives is received and broken in, we seldom hear about it again."

The closeness with which these compact, one-man, two-engine locomotives approach 100% availability has produced some of the most remarkable accounts of motive power efficiency in railroad annals. "Caterpillar" Diesel engineering and high-quality manufacture are, of course, major factors. Study the rugged, yet precise construction of these engines. . . .

The superb "Caterpillar"-designed fuel system which burns low-grade fuel so efficiently that these engines can idle indefinitely, then instantly pick up load without fouling or choking up. The "Hi-Electro" hardening which gives crankshaft journals, cylinder liners and other vital parts amazingly long life. The "Superfinishing" which makes bearings extra smooth. The efficient oil filters, oil bath cleaners and absorbent type fuel filters, which say "Keep Out" to grit, dust and dirt. The individually replaceable and interchangeable fuel pumps and injection valves. And many other exclusive features which in hundreds of "Caterpillar" Diesels and scores of industries have already run up records of 20, 30, 40, 50 and 60 thousand operating hours with comparatively little maintenance or parts replacement.

•

CATERPILLAR TRACTOR CO. • PEORIA, ILLINOIS

CATERPILLAR DIESEL ENGINES

TRACTORS • MOTOR GRADERS
EARTHMOVING EQUIPMENT

The discharged veteran wears this emblem. Remember his service and honor him.

FARNSWORTH

EXTENDS COMMUNICATION ACTIVITIES

BY ACQUIRING

THE HALSTEAD

TRAFFIC COMMUNICATIONS CORPORATION

WILLIAM S. HALSTEAD, president of the Halstead Company, joins the Farnsworth organization as consultant on radio communications equipment and traffic control, as well as on other phases of Farnsworth's broad electronic developments.

JOHN A. CURTIS, vice president of the Halstead Company and chairman of its management committee, joins the Farnsworth organization as manager of the mobile communications division.

To EXTEND its broad communications activities into the rapidly expanding field of mobile railway and highway communications and control, Farnsworth has acquired the assets of the Halstead Traffic Communications Corporation, including its developments, designs and patents. Key personnel, including William S. Halstead, president, and John A. Curtis, vice president, have joined the Farnsworth staff.

The Halstead organization is a recognized pioneer in this relatively new field of radio communications. It has invented, developed and produced field-tested equipment to provide railroads with modern, unfailing radio communications. It gave the world its first successful highway radio service, including the centralized control of busses, trucks and passenger vehicles.

The Halstead technical staff will establish new headquarters at the Fort Wayne Farnsworth laboratories. The organization will be merged and coordinated with more than two hundred Farnsworth research and development engineering personnel—a staff of scientists and technicians recognized as one of the country's leading technical organizations in the development of television; broadcast transmitters and receivers; radio-phonographs, and the most complicated types of radio and radar equipment for the Armed Forces.

Farnsworth resources, plus its seventeen years of electronic pioneering, its extensive engineering staff, and specialized manufacturing facilities, will strongly augment the outstanding position of the Halstead developments in this field.

FARNSWORTH TELEVISION & RADIO CORPORATION

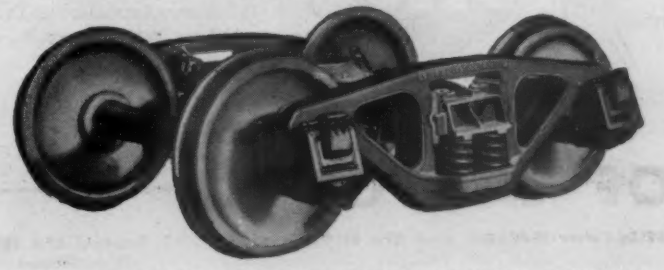
FORT WAYNE 1, INDIANA

Farnsworth Radio and Television Receivers and Transmitters • Aircraft Radio Equipment • Farnsworth Television Tubes • Halstead Mobile Communications and Control Systems for Rail and Highway • the Farnsworth Phonograph-Radio • the Capehart • the Capehart-Panamuse

Both the 1939 A.A.R. tests and those subsequently made by A.S.F. have revealed that the two principal requirements for an easy-riding freight car are long-travel springs and proper control of spring action. The modern A.S.F. Ride-Control Truck (A-3) incorporates both of these lading-protecting features.

MINT-MARK OF ⬡ FINE CAST STEEL

A·S·F *Ride-Control* TRUCK



LONG SPRING TRAVEL · CONSTANT FRICTION CONTROL

AMERICAN STEEL FOUNDRIES

CHICAGO

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after 157,076 miles of operation

No oil change in difficult Rock Island "Rocket" Test of RPM DELO Lubricating Oil

Special inhibiting, detergent and peptizing properties of RPM DELO Diesel Engine Lubricating Oil prevent port clogging deposits as shown by this tough trial in a "Rocket" Streamliner. RPM DELO Oil ran the entire 157,076 miles without a change, make-up "RPM" added as required. Oil consumption and cost were reduced. Liner wear was only one-third of normal, All rings were free and entire engine cleaner than with other oils.

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Write on your letterhead for free booklet on RPM DELO Oil to Standard of California, Dept. R-1, 225 Bush St., San Francisco 20, Calif., or California Commercial Co., 30 Rockefeller Plaza, New York 20, N. Y.

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RPM DELO Oil has world-wide distribution under the names: RPM DELO, Caltex RPM DELO, Kyso RPM DELO, Signal RPM DELO, Imperial RPM DELO (CONCENTRATE)

FOR car axles that will stand up under the strain of high speeds and heavy loads, it will pay you to remember Standard Forgings Corporation.

Car, Locomotive Tender and Locomotive Axles furnished to all specifications.

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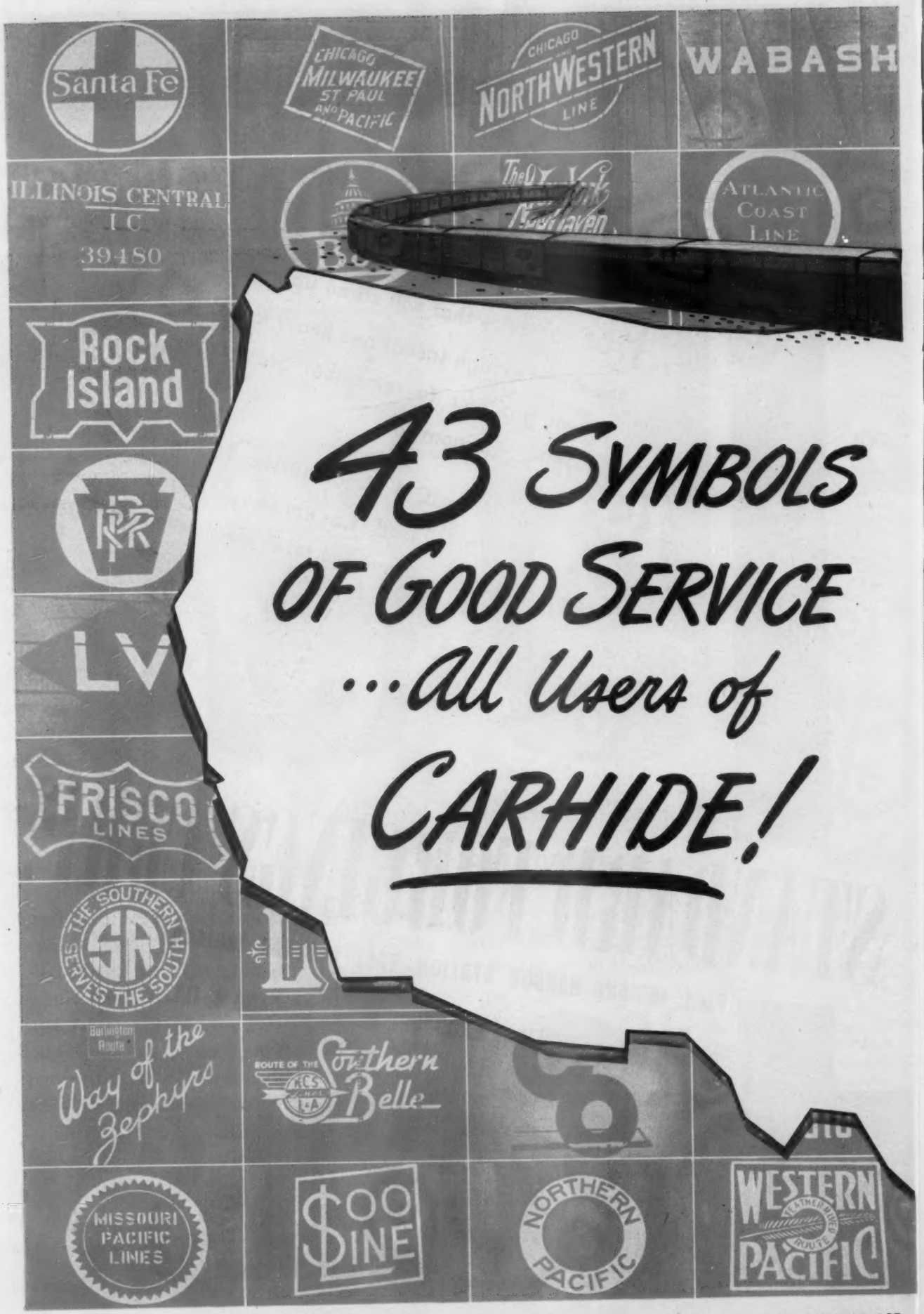
CAR AXLES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43 Symbols of Good Service ... All Users of CARHIDE!

AMERICA'S RAILROADS know the advantages of "Pittsburgh" paint protection! The leading lines* identified here are all users of Pittsburgh CARHIDE—and for good reasons . . .

Because Carhide goes on easier and dries faster, freight cars can be re-finished with attractive new colors in "around the clock" cycles, ready for stenciling, after overnight drying. Think what this means in terms of *minimum* layups in the paint shop!

Because Carhide is enriched with Pittsburgh's exclusive *"Vitolized Oils"* that remain in the paint film long after application, it stays *live,* tough and elastic—resists cracking and peeling caused by extremes of temperatures. And Carhide's glass-smooth, extra durable surface retains its brilliant gloss even after repeated washings and scrubbings.

PITTSBURGH RAILWAY FINISHES, available for a wide variety of applications, include Carhide for all types of freight equipment, Stationhide for stations, Ironhide for bridges, and Lavax Synthetic Finishes for passenger cars and locomotives. Our wide experience in supplying finishes for the nation's railroads can be helpful, and save you money, too. Ask us for interesting facts and figures.

PITTSBURGH PLATE GLASS COMPANY, Industrial Paint Div., Pittsburgh, Pa. Factories: Milwaukee, Wis.; Newark, N. J.; Houston, Texas; Los Angeles, Calif.; Portland, Ore. Ditzler Color Div., Detroit, Mich. The Thresher Varnish Co., Dayton, O.

*Space limitations prevent identifying *all* users of "Pittsburgh" Railway Finishes.

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PITTSBURGH PLATE GLASS COMPANY, PITTSBURGH, PA.

RAILWAY FINISHES

PITTSBURGH STANDS FOR QUALITY PAINT AND GLASS

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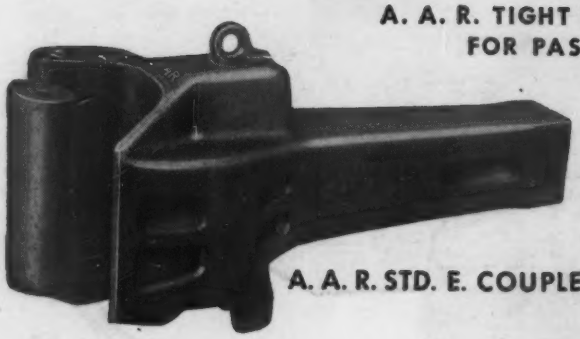
FOR PASSENGER SERVICE



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since 1875 has been making castings for railroad equipment.
Today the National line of railroad devices includes:

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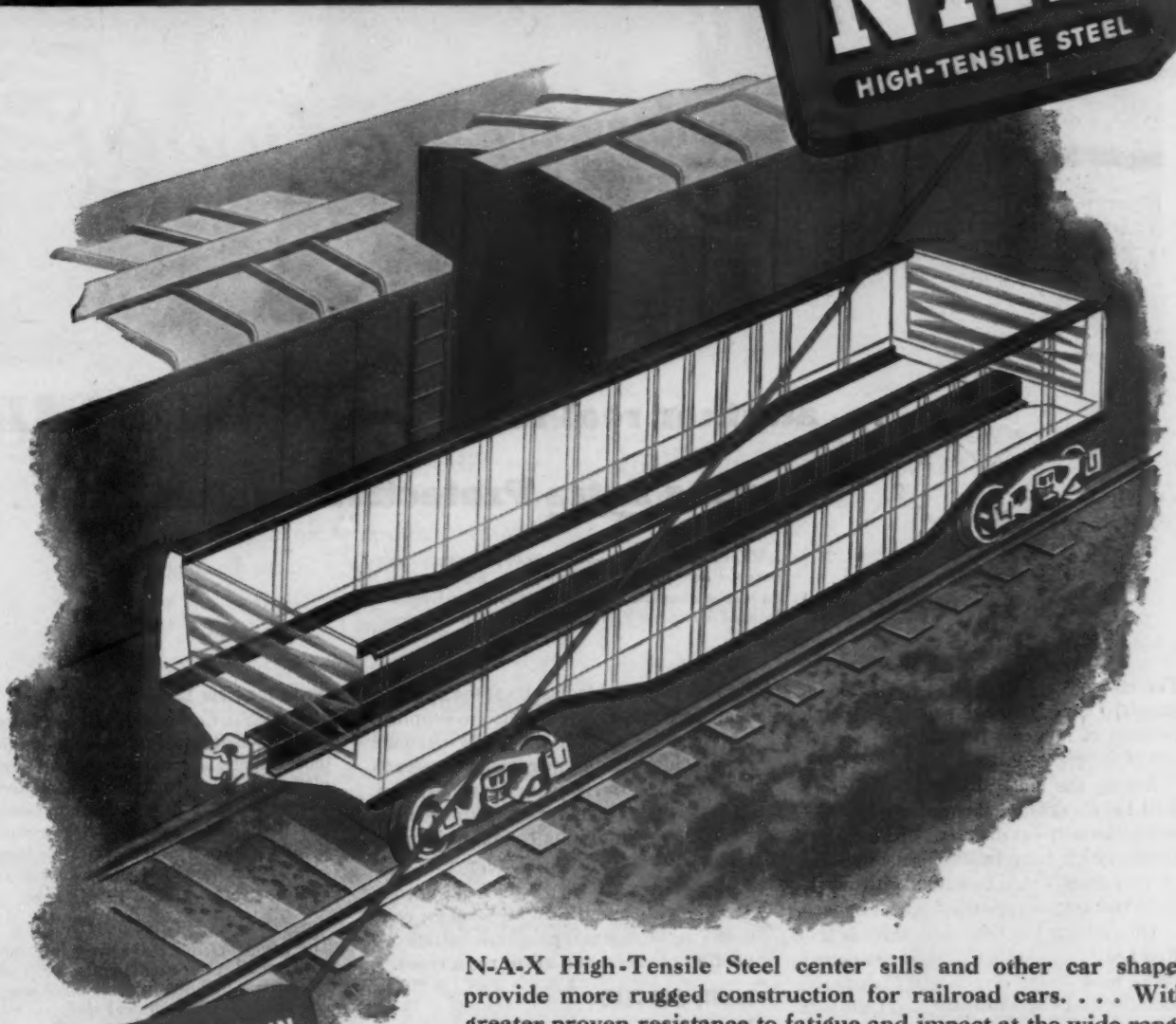
GREATER STRENGTH IN STRUCTURALS FOR HEAVY-DUTY APPLICATIONS

N-A-X High-Tensile Steel is the answer to many design problems where the *great strength of this fine-grained steel* can be applied to reducing weight, increasing durability, or both. Produced by Weirton in structural shapes and special sections, N-A-X High-Tensile Steel provides high strength and impact values, excellent weldability, exceptional resistance to fatigue. Corrosion-resistance is four times that of mild carbon steels.

N·A·X
HIGH-TENSILE STEEL



ITS FINER GRAIN MAKES ALL THE DIFFERENCE

N-A-X High-Tensile Steel center sills and other car shapes provide more rugged construction for railroad cars. . . . With greater proven resistance to fatigue and impact at the wide range of temperatures at which this equipment operates, N-A-X High-Tensile Steel assures longer life with less maintenance cost.

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WEIRTON, WEST VIRGINIA • SALES OFFICES IN PRINCIPAL CITIES
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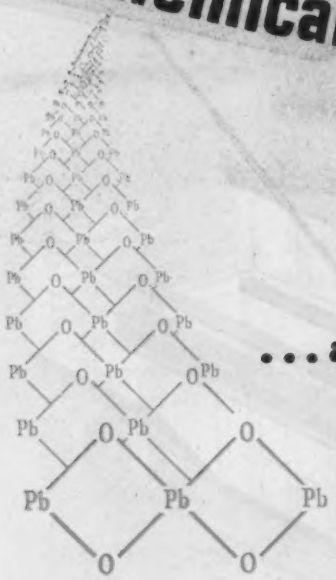
Uniformity of Chemical Composition...



...another real reason why RED LEAD means Extra Protection against Rust

Red Lead's outstanding uniformity of performance results not only from its extreme purity but also from its precise chemical composition... lead orthoplumbate. This makes for predictable chemical behavior.

For many years Red Lead has been the standard among metal protective paints because of inherent fundamental properties of the pigment itself.

Among the most important of these is Red Lead's definite chemical composition and uniformity—as distinguished from pigments which have indefinite composition or vary from batch to batch, with resulting possibility of variation in performance.

One reason for this uniformity is that Red Lead is a simple chemical compound, being made from oxygen and high purity metallic lead. Consequently, Red Lead is an extremely pure compound. It contains no corrosion accelerating impurities such as water-soluble salts of chlorides or sulfates.

Uniform composition means dependable performance, day after day, job after job.

Furthermore, Red Lead has the property of counteracting acid conditions, recognized as accelerators of rust. In the presence of various acids, Red Lead forms insoluble neutral lead salts at the approximate rate at which the acids are supplied. This is true whether the acids originate from acid forming environments, such as gas, smoke and moisture in the atmosphere, or from the decomposition of the vehicle. Thus, a rust inhibiting condition is maintained with a Red Lead paint.

Remember, too, that Red Lead is compatible with practically all vehicles commonly used in metal protective paints, including phenolic and alkyd resin types.

Specify RED LEAD for All Metal Protective Paints

The value of Red Lead as a rust preventive is most fully realized in a paint where it is the only pigment used. However, its rust-resistant properties are so pronounced that it also improves any multiple pigment paint. No matter what price you pay, you'll get a better paint for surface protection of metal, if it contains Red Lead.

Write for New Booklet

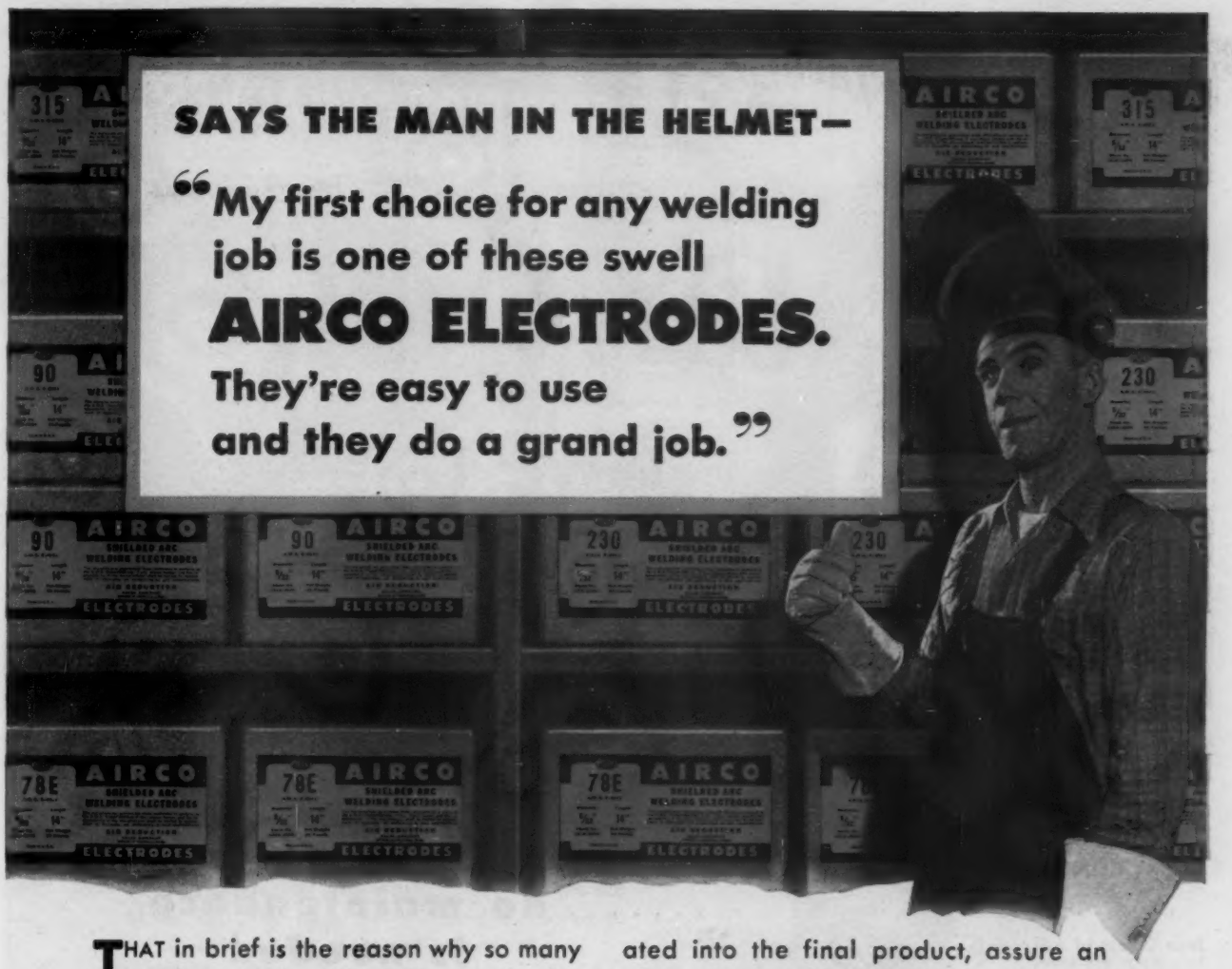
"Red Lead in Corrosion Resistant Paints" is an up-to-date, authoritative guide for those responsible for specifying and formulating paint for structural iron and steel. It describes in detail the scientific reasons why Red Lead gives superior protection. It also includes typical specification formulas. If you haven't received your copy, address nearest branch listed below.

* * *

The benefit of our extensive experience with metal protective paints for both underwater and atmospheric use is available through our technical staff.

NATIONAL LEAD COMPANY: New York 6, Buffalo 3, Chicago 80, Cincinnati 3, Cleveland 13, St. Louis 1, San Francisco 10, Boston 6 (National-Boston Lead Co.); Pittsburgh 30 (National Lead & Oil Co. of Penna.); Philadelphia 7 (John T. Lewis & Bros. Co.)

DUTCH BOY RED LEAD


SAYS THE MAN IN THE HELMET—
"My first choice for any welding job is one of these swell
AIRCO ELECTRODES.
They're easy to use and they do a grand job."

THAT in brief is the reason why so many welders prefer. Airco Electrodes for every welding job. For, in addition to meeting the metallurgical and mechanical requirements of each specific job, Airco Electrodes have those easy-working features that enable the welding operator to meet output schedules consistently.

After exacting laboratory trials each new Airco electrode is thoroughly pretested for working ease and efficiency by welding operators of varying skill and experience. Their suggestions, incorporated into the final product, assure an electrode that will rate high with the vast majority of operators.

* * *

SEND FOR FREE CATALOG

—which gives detailed information on Airco's complete line of shielded arc electrodes for every welding job. Address your local Airco office or Dept. R. A., Air Reduction, General Offices: 60 East 42nd Street, New York 17, N. Y. In Texas: Magnolia Airco Gas Products Co., General Offices: Houston 1, Texas.

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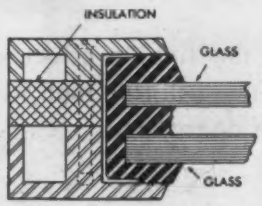
Weld with

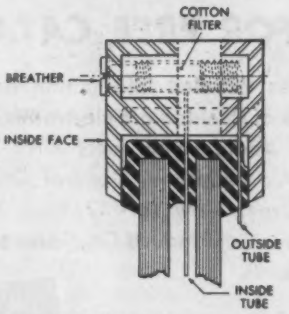
AIRCO ELECTRODES FOR BETTER WELDS AND EASIER WELDING

CONSTRUCTION DETAILS

Both frames of Adlake Sash are insulated from each other. This prevents cold from traveling to inside of unit—prevents frosting.



Note inside and outside "breather" tubes. These permit air between panes to adjust to changes in temperature and altitude—prevent clouding without use of a dehydrant.



Adlake CURTAINS . . . should be included. They never shake, rattle, or jangle. Swivel tip prevents change in length; rubber shoes stop noise and creeping. Ask for details about Adlake Curtains, Curtain Fixtures, Sectional Diaphragms, Vestibule Curtains.

BUY MORE WAR BONDS

. . . . . no maintenance is needed

A hunting scene . . . a snow-covered mountain . . . a city skyline, they're there through the advantages of unclouded, unfrosted windows—Adlake windows. Passengers enjoy the scenery. Railroad men appreciate the elimination of maintenance.

Adlake Double-Glazed Sash Units assure clear, unhampered vision at all times. The Adlake Breather—an exclusive principle—permits the air between the panes to adjust itself quickly. No artificial drying method is used.

Adlake Windows use no dehydrating compound, hence there's none to replace. Except for routine washing or broken pane replacement, Adlake Windows require absolutely no maintenance.

Adlake Double-Glazed Windows are again furnished in aluminum or with Alumilite* finish, if desired. They are designed and produced for new cars or for reconditioning present equipment. They are designed and built to standards that have won them a reputation for superiority throughout years of service. Write for prices and details . . . and specify Adlake.

* Patented Process of Aluminum Company of America.

Adlake TRADE MARK

THE ADAMS & WESTLAKE COMPANY

ESTABLISHED IN 1857 — ELKHART, INDIANA — NEW YORK · CHICAGO

ADLAKE RAILWAY CAR EQUIPMENT, FITTINGS and SPECIALTIES • DOUBLE-GLAZED ALUMINUM WINDOWS • WINDOW CURTAINS • VESTIBULE CURTAINS • SECTIONAL DIAPHRAGMS • LUGGAGE RACKS • ASH RECEPTACLES • HARDWARE

ONLY GETTING 50 gallons OF OIL FROM A 50 gallon Drum?

You get HUNDREDS if you use THE YM OIL RECLAIMER!

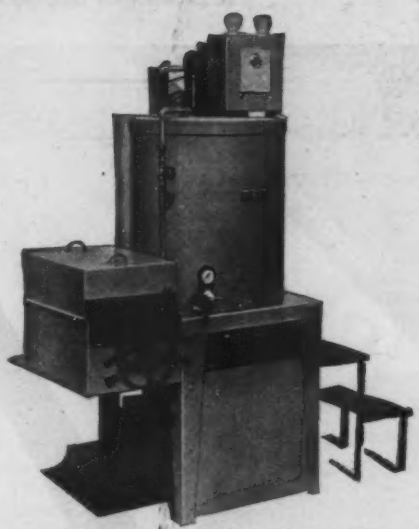
With the YM Oil Reclaimer, you can put used oil back to work...can use it again and again...and it's interchangeable with new parent oil!

The YM Oil Reclaimer completely removes fuel dilution...and moisture too, of course. It removes acids, gum, asphaltic materials. The oil comes out of the Reclaimer clear and sparkling—restored to the original viscosity of the new parent oil.

Oil refined in the YM reclaimer displays outstanding anti-varnish qualities. It cleans—*and keeps clean*—crank cases, valve chests and other places where sludge may collect.

Diesel and gasoline engine oils — transformer oils — cutting oils — hydraulic cylinder oils — these are just a few of the types that can be successfully reclaimed in a YM unit.

We'll be glad to show you how the YM reclaimer can cut *your* oil costs—and to tell you the names of companies near you who *know* what YM can do.



THE YM OIL RECLAIMER
One of the new models of the YM Reclaimer — available in a range of sizes for varying capacity requirements.

THE YOUNGSTOWN MILLER COMPANY

A Subsidiary of
Walter Kidde & Company, Inc.
920 Kidde Ave., Belleville 9, N. J.

Save OIL...and you save MONEY
with the **YM OIL RECLAIMER**
MAIL THE COUPON FOR FULL DETAILS

The Youngstown Miller Company
920 Kidde Ave.
Belleville 9, N. J.

Gentlemen:
Please send me further details about the YM Oil Reclaimer—and names of users in this locality.

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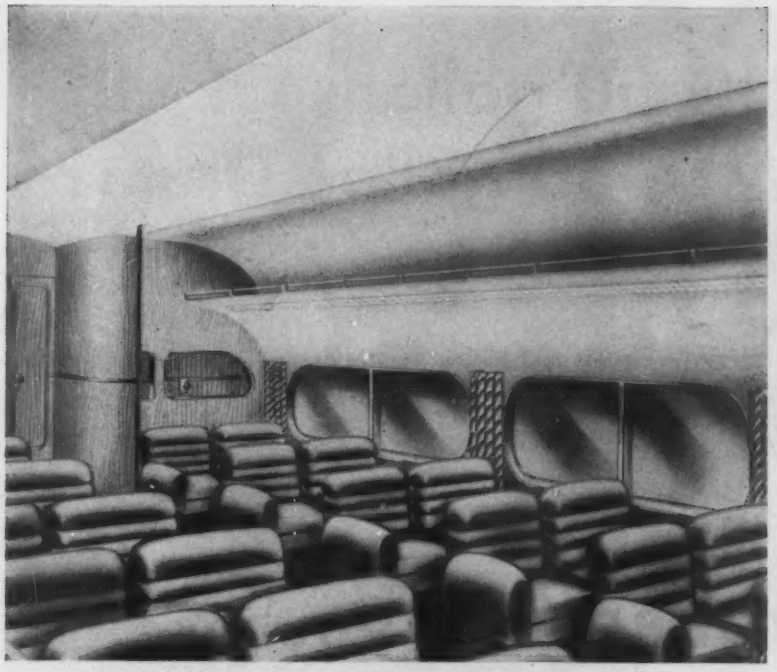
Position.....
Company.....
Street Address.....
City and State.....



See how G-E lamps can help you create modern cars for postwar business. For example, G-E Slimline lamps can readily be concealed in coves and baggage racks to step up lighting levels, increase passenger comfort, help to attract travel.

Good lamps are the heart of good lighting

FILAMENT

FLUORESCENT

SLIMLINE FLUORESCENT

The Constant aim of General Electric Lamp Research is to make G-E Lamps Stay Brighter Longer

For tomorrow, G-E Slimline lamps will join with G-E fluorescent and filament lamps to bring you new help, greater service from lighting.

G-E LAMPS
GENERAL ELECTRIC

Schaefer WEAR PLATES

Minimize Wear and Replacement

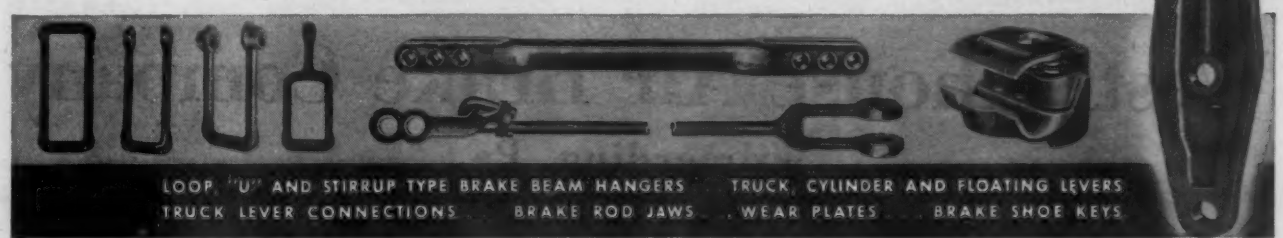
Schaefer Wear Plates protect side frame brackets—are cheap insurance against wear.

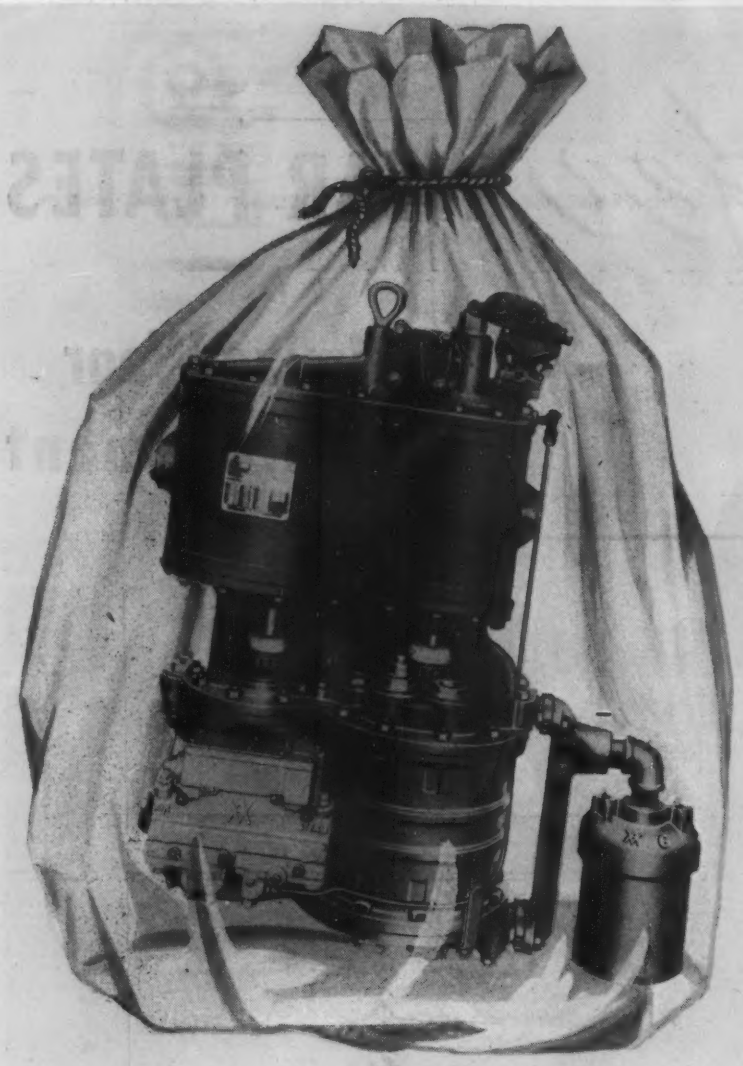
All of our plates are oil quenched to precisely the same hardness as the Schaefer Hangers which they support—resulting in balanced wear and longer life.

Several styles to suit your needs as shown in the Schaefer Catalog. Write for your copy.

Schaefer EQUIPMENT COMPANY

KOPPERS BUILDING • PITTSBURGH, PA.


LOOP, "U" AND STIRRUP TYPE BRAKE BEAM HANGERS
TRUCK, CYLINDER AND FLOATING LEVERS
TRUCK LEVER CONNECTIONS
BRAKE ROD JAWS
WEAR PLATES
BRAKE SHOE KEYS



All In One Package

The 8½" Air Compressor is a compact compressor plant—complete with all the necessary auxiliaries. The governor to regulate compressor operation, and the F-2 lubricator to provide metered lubrication *when the compressor is running* are mounted right on the compressor.

Initially the installation is easier as less piping and fewer fittings are required. And at shopping periods the whole plant can be removed and replaced in a shorter time, with far less effort.

Refitting and testing of the unit are easier and make for dependable compressor operation. Assembled right on the compressor, the governor and lubricator can be adjusted with the knowledge that these auxiliaries are functioning . . . *when installed.* And as no piecemeal fitting is required on the locomotive there is every confidence that the compressor plant will function as intended.

Integral mounting of these accessories means easier installation, more dependable compressor operation—greater assurance that the compressor will be on the job from shopping to shopping.

Westinghouse Air Brake Company

Wilmerding, Pa.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway Age-Gazette. Name registered in U. S. Patent Office.

Vol. 119 September 8, 1945 No. 10

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"Liberation" Locomotives for France ***401***

Describing the 2-8-2 locomotives being built for French railways by Lima Locomotive Works, and the accompanying ceremonies which attended the presentation of the first of these engines to the French Railway mission at the Lima plant.

North Western Tests Train Radio ***406***

Trials made in yard service at Milwaukee and on freight trains on the 486 miles between Chicago and Council Bluffs, Ia., indicate benefits to be derived from such installations.

"Let Ole Man Winter Come - We're Ready" ***408***

Union Passenger Terminal company officers at St. Paul, Minn., believe to be fully justified their confidence in a new-type machine for removing snow and ice from station tracks. The plow-loader is described and illustrated herein.

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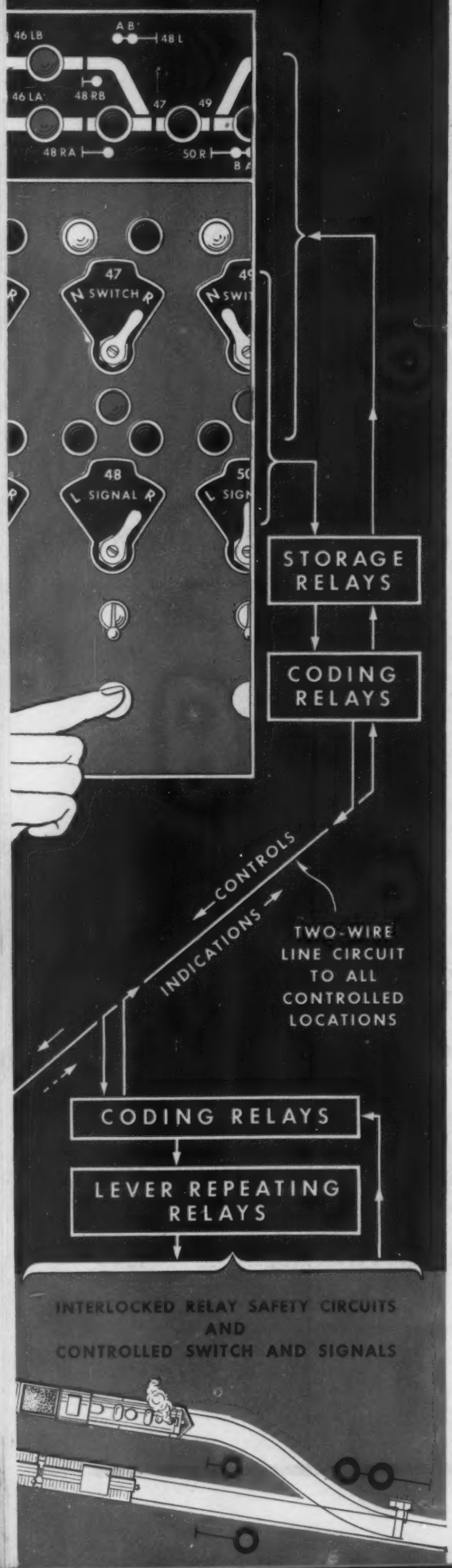

Here's what Time Code Control does in modern C.T.C. systems

In its familiar application to Centralized Traffic Control, the "Union" Time Code Control performs a complex job in modern signaling with simplicity and efficiency.

Let's take the typical situation shown at the left—to authorize the train on siding to advance requires only simple manipulation of levers on the C.T.C. machine. Switch lever 47 is reversed, lever 48 is turned to the right, and the code starting button is pushed.

This causes a group of office coding relays to transmit a control code, consisting of a predetermined arrangement of pulses, over the two line wires to all C.T.C. stations. The first portion of the code causes the selection of the station controlling switch 47 and signals 48, while the last portion actuates certain lever-repeating relays at this station to accomplish the desired functional controls.

The response of vital functions to the desired controls depends finally on the "safety circuits" that are localized and interlocked in the field. Switches cannot be operated while route locking, approach locking, and certain occupied track circuit controls are in effect. Furthermore, the signal control circuits are designed to establish traffic direction, hold opposing signals at stop, check switch position, and assure that the track in advance is not occupied before permitting the display of a non-restrictive signal aspect.

Any significant change in condition at a field location automatically initiates an indication code. This code includes a complete report of switch position, signal indication track occupancy, etc., prevailing at the time. At the office the code is "translated" for the resultant display of indication lights above the levers and on the track diagram.

A popular form of time code control for C.T.C. is the "Union" 506 System which has a maximum capacity of 35 stations. When used in combination with "Union" Coded Carrier Control, two or more C.T.C. sections may be operated simultaneously over the same pair of line wires.

Our nearest district office will be glad to give you full information about "Union" Code Control Systems and their applications.

UNION SWITCH & SIGNAL COMPANY

SWISSVALE PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

The Week at a Glance

"SUPERSENIORITY": Employers, as is so often the case these days, again find themselves in the middle of a quarrel between the unions and agencies of the government, this time over the practical application of the provisions of law designed to protect the seniority rights in civilian employment of the men drafted into the armed forces. A Brooklyn judge, as reported in the news pages herein, has given the unions a set-back in an opinion to the effect that the service man's "superseniority" under the law takes precedence over a non-veteran's seniority rights, despite the terms of any working agreement or union rule. The prospect is for much more litigation over this question, and the railroads, along with other employers, no matter how good their intentions, are looking forward to many difficulties in the equitable application of the courts' decisions.

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"LIBERATION" LOCOS: An illustrated article on page 401 describes the 2-8-2 locomotives being constructed by Lima Locomotive Works for the French government railways, a part of a lend-lease project under which orders were placed with American builders for 700 engines to replenish partially the losses suffered by the railroads of France during the German occupation and the Allied invasion.

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GROSS OFF, EXPENSES UP: Summarized in the news pages, the A. A. R.'s figures on gross and net income for July show some of the effects of the war effort's tapering off, as there was a significant decline, as compared with July last year, in operating revenues and a substantial increase in operating expenses. While the net income of the country's railroads as a whole was more this July than last, this favorable showing resulted almost entirely from the extraordinary volume of business handled by the western lines in connection with the war in the Pacific, then going on at an accelerated pace, as net for the same month was about stationary in the East and decidedly lower in the South, as compared with the 1944 result.

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SNOW AND ICE REMOVER: Something new in the way of a plow and loader for clearing station and yard tracks of snow and ripping out ice accumulations is pictured and described this week on page 408. With this contrivance and a car-mounted snow melter which has been in use for some years, the St. Paul Union Depot considers itself ready for the worst storms that may threaten to tie up its 13 miles of terminal tracks.

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ECONOMICAL TRACK: While the best built and best maintained track now in service may be adequate for the needs of the reasonably near future, very substantial improvements in the character of most existing main-line track are demanded now, and will be increasingly imperative later, an editorial herein explains, for two compelling reasons. One is the necessity of providing a structure suitable for the most productive use of new, high-speed, high-powered equipment. Another, perhaps less obvious, is the need, dictated by considerations of economy, for more durable, more permanent construction that can be maintained at top pitch with substantially less attention and labor cost and frequency of replacement than is customary now.

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JOBS FOR ALL—ANOTHER WAY: If the basic principle of the Murray "full-employment" bill should become law—that is, that the government, through a program of so-called public works construction, shall provide jobs for that portion of the employment-seeking population for which private business does not offer acceptable opportunity to work—then one of three means of financing the government's expenditure must be resorted to: (1) confiscation of private wealth by a totalitarian government; (2) printing the money, or promises to pay; or (3) taxation. Most Americans would immediately reject the first alternative. The inevitable outcome of the second would be ruinous inflation and a complete collapse of the national economy, such as Germany experienced after World War I. And the result of taxation adequate to support large-scale government "make work" projects, over any considerable period of time, would be a drastic curtailment of private expenditures by the taxpayers that would bring in its wake more and more unemployment. But it is not necessary to take any of these unhappy choices. It is not necessary for the government to spend vast sums to secure "full employment." Under fair conditions, as outlined in the leading editorial in this issue, the maximum amount of employment the national economy can support can be provided by private business, without any artificial stimulus at the taxpayers' expense.

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ALUMINUM IN SERVICE: The noteworthy service record of the first aluminum tank car, which was built by General American's Sharon plant in 1928, is reviewed in an illustrated article this week. Using regular steel underframe and trucks and an 8,000-gal. welded aluminum tank, this experimental unit has stood up under 17 years of intensive use, transporting chemicals, with a lower maintenance cost than equivalent all-steel cars.

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MORE CONTROLS GO: Effective at mid-month, the O. D. T.'s "freeze" of passenger train schedules is removed, and all restrictions on the operation of extra sections, special trains and special cars go off at the same time. Added to the provision for reservation and sale of sleeping car and other passenger accommodations two weeks in advance, which goes into effect September 9, and the earlier lifting of the ban on seasonal trains, this relief from wartime regulation of passenger service affords the railroads more freedom to adapt their operations to the demands of the day than they have enjoyed for a long while.

MORE ON HEAVY LOADING: Following the analysis by G. Lloyd Wilson of the attitude of the Interstate Commerce Commission toward rate concessions as incentives to heavier loading of cars which appeared in these pages in July, the same writer in this issue has developed further, in the light of other recent commission decisions, his thesis that some of its members at least may look with favor on reasonable rate differences conditioned on differences in carload minimum weights. Suggestions are offered as a guide to the development of an equitable formula to determine appropriate load-rate relationships.

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BEDROOMS BY BUDD: The 32-passenger, all-room, single-occupancy sleeping car designed by Budd (which they call the "Budgette" type) is briefly described in the news pages herein. This design supplements the 22-room cabin car arrangement previously announced, and is offered as a replacement for the open-section car of pre-war design. Some details of still another new Budd sleeping car, made up of double bedrooms of two types and fitted with many luxuries, including individual shower baths, also appear in this article.

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SUBSIDIZED SHIP LINES: The A. A. R. has objected to a War Shipping Administration proposal to operate, under a temporary I. C. C. authorization, domestic intercoastal and coastwise steamship lines under arrangements which would allow the water carriers to offer service at their pre-war rates under a government guarantee against loss. Having invested large sums in facilities that are entirely adequate to handle all the traffic that will be available, most rail lines find no justification for a situation, even of a temporary nature, where they see themselves as victims of competition subsidized by the nation's taxpayers for the benefit of a particular class of shippers and one form of transportation.

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RADIO TRY-OUT: Some of the results of a two-months test of radio telephone equipment for two-way engine-to-caboose and train-to-yard-office communication recently completed by the North Western are outlined on page 406. Experiments in main-line road freight service led those in charge to the conclusion that an average of 1¼ hr. per train might be saved by the use of end-to-end of train radio on the Chicago-Council Bluffs run, and that another hour or more might be saved if wayside radio stations were in operation and if conductors were supplied with "walkie-talkie" outfits.

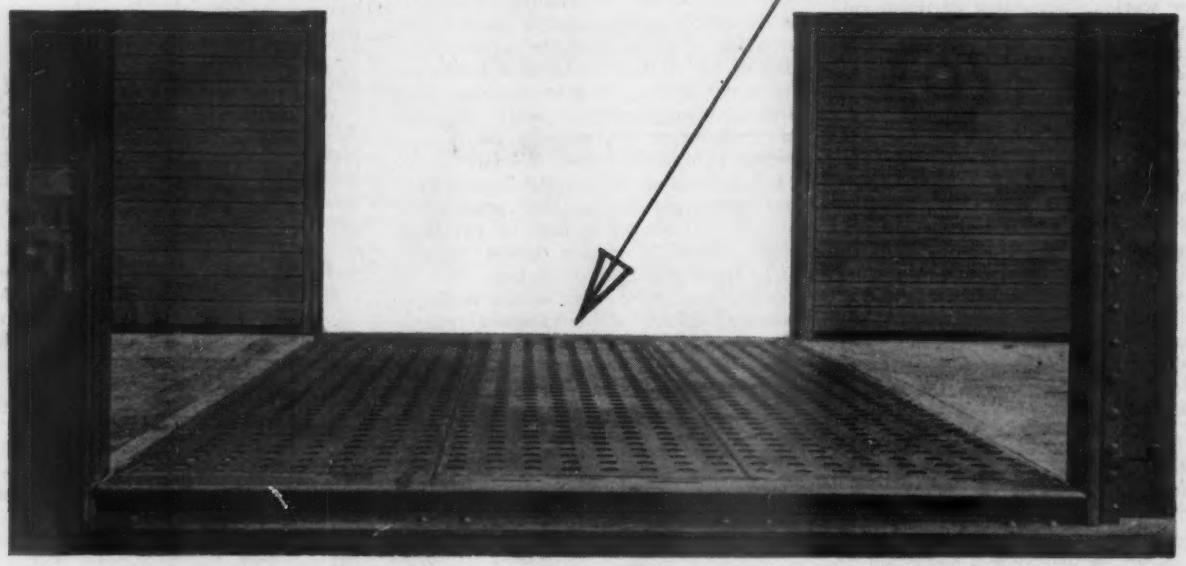
●

TRAVELING SERVICE MEN: Fuller details about the magnitude of the railroads' day-in-and-day-out job of moving troops have been made available, as reported this week in the news pages. For organized movements—that is, groups of 40 or more men traveling as a unit—the passenger-miles total for July was over one billion; more than a million men were transported.

Protection

WHERE IT IS NEEDED MOST

AT THE DOORWAY



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RAILWAY AGE

How to Secure "Full Employment"

With politics having intruded so generally into the processes by which people earn a living, greater popular understanding is needed of the way the economic machine works. Without such understanding, the people may vote themselves what they believe to be an increase in their standard of living, only to find out that, in actual fact, they have done the very opposite. There is pending in Congress the so-called Murray "full-employment" bill, which has been endorsed by many spokesmen for organizations and by individuals who cannot be suspected of a desire to reduce the living standards of the American people or of wishing to pervert our system of economic and political freedom into a Nazi or Soviet form of tyranny. Among the supporters of this bill, there are, of course, all the elements who *do* desire to destroy our traditional liberties and to discard our historic formula for economic progress, but such motives can scarcely be imputed, for example, to such advocates of the Murray bill as President Truman, the railway unions, or the federal council of churches.

It is the misfortune of the complex and exacting science of economics that it uses the terms of everyday speech and that it deals with subject-matter of which everyone knows a little something. Such terms as "wealth," "income," "employment," have a fuller and more precise meaning when they are used by the trained economist than is conveyed to a popular audience when these same words are employed by a radio spell-binder. Similarly, persons schooled in economic analysis clearly distinguish in their own minds between monetary incomes and "real" incomes (i. e., income measured in terms of the volume of goods and services which the recipient can command)—a distinction which is scarcely ever evident in popular discussion. Those trained in the study of economic processes have, also, a livelier understanding than can be expected in people without such training of the incentives which are required to keep a free economy in vigorous operation.

Every Man an "Economist"

There is not any disgrace, and should be none, attached to ignorance of the complexities of this intricate and difficult science—the blame and danger belongs instead to people's formation of positive and dogmatic opinions, and their political effort to give such opinions coercive effect on others, without being willing, first, to submit to the training which would give competence to their conclusions. No radio orator would attempt to arouse a popular following to veto an engineer's design of a bridge, substituting its inexpert decisions for his; nor would the behavior of intra-atomic particles be ascertained by a show of hands at a political or ecclesiastical gathering—yet such absurd behavior is characteristic in the popular attitude toward economic problems, which are fully as complex and difficult as those of bridge engineering or atomic physics.

All competent and respectable economic opinion opposes the Murray bill. There are some able individuals, trained in economic science, who favor the measure, but in every instance they are more or less open protagonists of a socialized or semi-socialized state. In essence, the bill provides that all employable people must be provided jobs at wages acceptable to them; and, if sufficient jobs are not available in private industry, the federal government must make up the difference by increasing its program of "public works."

The Cost of "Public Works"

Estimates as to the magnitude of the post-war "working force" vary between 45 million and 60 million. If "public works" were to supply even so small a fraction as 5 million of those jobs, the cost to the government would be at least $10 billion annually. Assuming that unavoidable federal expenditures in the post-war years will be not less than $16 billion (exclusive of "social security" payments), it is evident that federal taxation would have to be 62½ per cent higher to provide these "public works" jobs than would otherwise be necessary. It should be obvious also that the federal government could not thus increase its taxation without forcing taxpayers to curtail their expenditures—for housing, clothing, and other consumers' and consumers' "durable" goods and for investment—thereby, probably, subtracting as much or more employment in private business as would be artificially provided by the "public works."

If, as many proponents of such legislation as the Murray bill advocate, the federal government should not attempt to finance "public works" by taxation, but should simply add $10 billion, more or less, annually to federal indebtedness—then the day would be that much nearer when the credit of the government would disappear—with people seeking to unload their paper money and government bonds in exchange for actual goods. Under such conditions, we should have a repetition here of the inflation in many war-ridden lands

today where it takes a week's wages to pay for one mediocre meal.

There is no competent economist, friendly to political and economic freedom, who fails to recognize that the only way in which government can honestly and effectively assist in maximizing useful employment is by removing the political impediments to the natural incentives which, in a free economy, will operate to maximize employment and income without any artificial stimulus whatever. Dependable moderation in taxation, leaving the people with the bulk of their income to spend in their own way and with a reasonable hope for remunerative investment; enforcement of anti-monopoly measures against all unregulated industry and unregulated unions; the placing of all government-owned business enterprises, including transportation facilities, on a self-sustaining (as opposed to a tax-supported) basis; maintenance of a sound monetary and credit system, with government expenditures limited to income except during war-time—such things, and only such things, can government do effectively to promote maximum employment and income, while retaining political and economic liberty.

Consequences of Government Spending

If the Murray bill is enacted and put into vigorous practice, the result must be (1) a worsening instead of an amelioration in unemployment, or (2) the weakening and perhaps the collapse of our monetary system and the consequent reduction of most incomes to the starvation level or worse, or (3) the perversion of our economic and political system into a Nazi or Soviet type of tyranny, under which there would be no unemployment, but also no liberty and very litle individual income.

The rank and file of citizens cannot be expected to acquire the mastery of economic analysis requisite to reaching under their own power the foregoing, or any other, conclusions in this domain. They can, however, when they are asked to accept a ready-made opinion in the realm of economics look into the qualifications of those who seek to advise them, bearing in mind that ability to win elective office in government or in a private association does not make a man prima facie competent as an economic adviser, any more than such election would qualify him as a radar expert or turn a time-keeper into a journeyman machinist.

Time to Revive Apprentice Training

Under the stress of conditions as they existed during the war, apprentice training in most railroad mechanical departments was drastically curtailed, or in some instances practically eliminated. It was impossible to retain as many young men as needed in apprentice courses because they were inducted into military service or took jobs in defense plants. For the same reasons it was difficult or impossible to recruit new apprentices and, moreover, there was little incentive to start new boys on courses they could almost certainly not complete. In addition, railroad supervisors, including many of those formerly in charge of apprentices, were under such heavy pressure to get increased shop output that they simply could not give the desired time and attention to the important, but currently less urgent, matter of apprentice training.

Some idea of the depletion of apprentice forces is given by Railroad Retirement Board figures for July 31 which show a total man-power shortage of 89,268, including 12,797 skilled trades journeymen and 11,055 helpers and apprentices. Helpers constituted by far the larger part of the latter combined classification, the apprentice shortage alone being given as 1,280 which included 608 machinist, 397 car man, 189 boilermaker and 86 miscellaneous apprentices. With the termination of the war, steps will be taken to remedy railroad manpower shortages in all categories and, as relates to apprentices, a review and restatement of the objectives and methods of obtaining the best all-around results with apprentice training on individual roads will undoubtedly prove worth while.

Where and how can the right kind of boys be secured for apprentice training? To what extent will it be feasible and desirable to retain the old 4-year general apprentice system which produced capable all-around mechanics, as compared with the specialization common in manufacturing industries and increasingly used by railroads under the force of necessity during recent war years? How can suitably-equipped supervisors be selected to instruct and inspire apprentices? What special kinds of school and shop equipment will be needed to meet the requirements of modern apprentice training? These and many other questions of general policy and important details must all be answered.

With regard to the question of specialized versus general training of both apprentices and shop men, the benefits and necessity of the former, to some degree, are freely admitted. Modern production records and reduced unit costs could not be achieved without specialization. A fairly close analogy, however, can be found in the field of medicine, where the good old reliable general practitioner, or family doctor, who knows something about most all human ills and their treatment, avoids fads and keeps his feet on the ground, has a definite advantage over any specialist in possibly two-thirds of the cases requiring medical attention.

Similarly, the generally-trained machinist, boilermaker, blacksmith, or car man is a great asset in any shop, and without him flexibility in the arrangement of shop forces is definitely limited, shop production is curtailed and new ideas for the saving of time and labor are much less likely to be developed. Moreover, he represents an important source of supply in developing foremen, master mechanics and higher supervisory officers, both locomotive and car, although it must be admitted that the qualities of initiative and leadership required in supervisors are more inborn than ascribable to the type of early education and training received.

Since competent railroad mechanics cannot be made in a day, or even a year, and since boys who should have been learning railroad trades during the last four years have been largely engaged in war and associated activities, it is important to start filling in this large gap in mechanical department personnel just as soon as possible and in the most effective ways which can be devised.

Wages and Jobs

In these pages in our August 4 issue we presented figures to show the effect on railroad earnings of wage increase and "featherbed" demands by the operating unions which, if granted with similar increases in wage rates alone to other employees also, would cost the railroads $1,700 million annually. Some mistakes were made in the statistics then given, which are corrected below and further analyzed.

The railroads in 1944 had the largest gross earnings in their history—$9,437 million. Net earnings and "other income" before taxes totaled $3,165 million. Taxes were $1,846 million. Net available for fixed charges was $1,276 million. Net income after fixed charges was $668 million.

Without counting on a decrease in taxes, an addition of $1,700 million to labor costs would have reduced last year's net earnings and "other income" before taxes to $1,465 million, and would have wiped out last year's net income and left a deficit of $1,032 million. It is true, of course, that an increase in labor costs—an operating expense—would reduce income taxes. But even if federal income taxation for 1944—$1,303 million—had been wiped out entirely, the railroads would still have been worse off by the difference between $1,700 million (the wage increase) and $1,303 million (federal income taxes), or $397 million; which is to say that, instead of having, as they actually did, $1,276 million with which to pay $566 million of fixed charges and to compensate stockholders and make additions to property or retire indebtedness, they would have had only $879 million for that purpose.

A supposition that federal income taxation would be eliminated is, of course, absurd. If such taxes were reduced as much as 50 per cent, the railroads with a $1,700 million increase in labor costs and a decline of $652 million in taxes would be $1,048 million worse off in net earnings than they actually were in 1944; which is to say that their net earnings available for fixed charges would have been only $228 million—or considerably less than half enough to meet their fixed charges, in their year of greatest traffic and gross earnings in history.

The foregoing figures are an amplification of those presented in our August 4 editorial and, in one particular, constitute a correction of our earlier statement. We then inadvertently said that a 100 per cent reduction in federal income taxes would with the proposed wage increase leave the railroads with only about half enough to pay their fixed charges. Actually, as the above figures make clear, it is a 50 per cent reduction in federal income taxation and not the wholly impossible one of 100 per cent which, with the proposed wage increase, would reduce railroad net earnings to less than half of their fixed charges. Our thanks are due to Professor Eliot Jones of Stanford University for calling this error to our attention.

Even a 50 per cent reduction in federal income taxation is a highly optimistic supposition unless railroad gross revenues should heavily decline—in which event it would be even more difficult than we indicated for the railroads to sustain a wage increase of the magnitude demanded. The plain fact is that such an increase—or any increase at all—cannot be paid by the railroads unless it is passed on to the public in the form of increased rates and fares; and the effort to do this could succeed only in part, because of its certain effect in diverting railroad traffic to other forms of transportation.

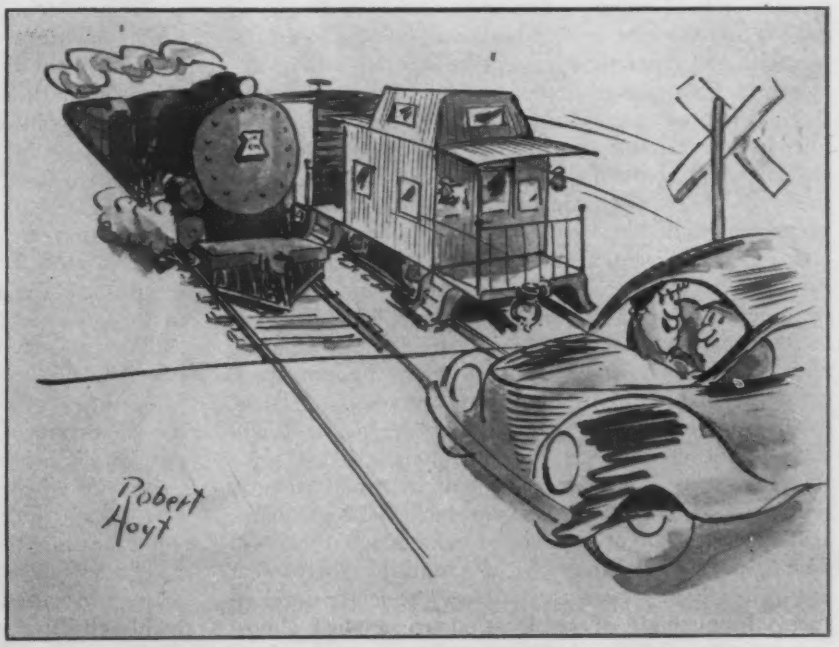
The real problem of railway labor today is, or soon will be, not one of wages but of jobs. It is the shipping and traveling public who by the degree of their patronage of the railroads decide how many jobs there are going to be on the railroads—and if railroad employees insist on charging these patrons more for their labor than the customers feel inclined to pay, then the patrons will just cut down proportionately the number of railroad employees whose work they will pay for.

Track of the Future

One of the most interesting questions in the minds of many railway engineering and maintenance officers today is with respect to the track of the future. Will present standards of construction and maintenance be adequate?

Even though higher train speeds are in prospect, there is a disposition on the part of some engineering and maintenance officers to feel that present standards and practices, generally, will be adequate for the future,

They're Back on the Roads Again



"Thank heaven that freight's by; I thought we'd never get across."

extended in kind, as necessary, with the extension of present high-speed train schedules to new territories. Others hold to the opinion that standards still higher than those now prevailing will be required. Which group is correct?

There is no question that marked improvement in the strength, stability and life of the track structure has been made progressively over the years, and that, in a physical sense, present highest standards of construction, combined with present highest standards of maintenance, are adequate to anything the immediate future may demand with respect to wheel loads, speeds, comfort and safety, especially if equally high standards of construction and maintenance prevail with respect to locomotives and rolling stock.

Unfortunately, however, only a relatively small mileage of the main lines of the country is built to the highest recognized standards of construction and is maintained to the highest recognized standards of maintenance. Even much of the track on the routes of many of the streamliners operating today does not incorporate the highest standards of construction as regards strength and stability, or, unavoidably in part, the highest standards of maintenance in terms of refinement of line, surface and cross level. In spite of these acknowledged shortcomings in present track, it is beyond dispute that many high-speed streamlined trains have demonstrated that they can be operated with a high degree of safety and an improved degree of comfort for passengers. To this extent, those who contend that today's highest standards of construction and maintenance, applied to the track, will be adequate to traffic demands, are correct.

But there is another factor to be considered, and one which promises to become of greater importance in the years ahead. This is the factor of economy in maintenance, which is certain to demand still greater consideration than in the past, in the face of the upward trend in labor costs. Conceivable as it is that present highest standards of construction are adequate to the physical job of handling the traffic safely it is not so certain that these same standards will be able to do the job with the economy that will be desired, if not demanded. Experience has demonstrated beyond question that, with present standards of track construction, refinements in alinement, surface and cross level—the elements that contribute so largely to the comfort and safety of high-speed train operation—are anything but permanent under heavy, high-speed traffic. Certainly, any other facility that requires constant detailed inspection, frequent routine maintenance and complete overhauling every few years, would not be considered as having attained a very high degree of permanence, and yet, these are the requirements of present track construction, built to even the highest present standards.

If profitable future operation of the railroad will demand the economy in track maintenance that some foresee, it is inconceivable that the present rail structure, with its limited life under heavy traffic, will be adequate; that measures cannot be developed and adopted that will further extend the life of crossties; and that the present roadbed will be satisfactory, unless the latest developments in methods of stabilization are applied almost generally to high-speed, heavy-traffic lines. In other words, rather than future loads and speeds, economy in maintenance may prove to be the factor that will demand higher standards of design and construction—standards that will give greatly increased permanence to essential refinements in line, surface and cross level, once they have been built into the track. However, whichever factors may dominate, it is certain that there can be no let-down in present high standards of track construction where heavy traffic and high speeds are concerned, and that every effective means will, of necessity, be desirable to reduce routine track maintenance expenditures to a minimum.

Heavy Carloads Promote Economy, Aid in Competition

The war concentrated the attention of railway executives, railway operating officers and shippers on car handling. As always, it was the function of general superintendents of transportation and their staffs to supervise car movement and to see that cars were handled efficiently, but during the war they were aided by the shippers and their own executives, as well as, when necessary, by the Office of Defense Transportation. With the coming of peace, the transportation officers should not be suddenly deprived of all this assistance.

The war taught many lessons regarding efficient car utilization. Some of the methods adopted are obviously unsuitable for peace-time purposes, but much can be learned from war-time car handling. The same degree of unselfish co-operation is not to be expected from shippers now that it is no longer a patriotic duty. But through the various shipper associations a spirit of co-operation between railways and their customers can be maintained. Experience during the war taught how valuable good railroad transportation is to American industry, and it can be made equally valuable in peace-time.

Shippers cannot be expected to continue the heavier loading of cars where this involves extra trouble and expense to them unless they are given incentive to do so. Even when the car supply is plentiful, heavy loading benefits the railways by reducing the proportion of dead weight to paying load and the number of cars and trains required to handle whatever volume of traffic is available.

Objection is made by some to adopting different freight rates for the loading of different minimum weights per car upon the ground that this would tend to break down the rate structure. Nevertheless, the possibilities of the dual minimum rate as an incentive to heavy loading should be carefully considered. These possibilities were carefully weighed, particularly from the standpoint of the attitude of the I. C. C., in a two-part article by Professor G. Lloyd Wilson in our July 21 and 28 issues; and a further discussion in this issue by the same author presents additional evidence on this important question.

The lessons taught by the war in car handling were many and varied. As a whole, the methods used were highly effective; and careful study should be made with a view to retaining all of them that will contribute toward efficiency and economy in peace-time.

"Liberation" Locomotives for France

First of an order of 700 locomotives of the 2-8-2 wheel arrangement to be built by American builders delivered to French Railway mission by Lima Locomotive Works

Partial List of Specialties on U. S. War Department (French) Locomotives

Bearings: roller, engine and trailer truck	The Timken Roller Bearing Co., Canton, Ohio.
Draft gear: engine and tender	Cardwell-Westinghouse Co., Chicago.
Radial buffer; automatic compensator and snubber	Franklin Railway Supply Co., Inc., New York.
Brake equipment: engine and tender	Westinghouse Air Brake Co., Wilmerding, Pa.
Sander	Ajax Consolidated Co., Chicago.
Sander valve	Viloco Railway Equipment Co., Chicago.
Piston rod packing	Paxton-Mitchell Co., Omaha, Neb.
Cylinder and valve bushings; valve packing rings	Hunt-Spiller Manufacturing Corp., Boston, Mass.
Cylinder packing rings (90)	American Hammered Piston Ring Div., Kopper Company, Baltimore, Md.
(90)	Paxton-Mitchell Co., Omaha, Neb.
Safety valves	Coale Muffler & Safety Valve Co., Baltimore, Md.
Bumper castings	Ohio Steel Foundry Co., Lima, Ohio.
Cylinder cock operating valve; cab windows	The Prime Manufacturing Co., Milwaukee, Wis.
Cylinder cocks; blow-off cock	The Okadee Company, Chicago.
Power reverse gear (90)	American Locomotive Co., New York.
(90)	Franklin Railway Supply Co., New York.
Lubricators; whistle	Nathan Manufacturing Co., New York.
Superheater	The Superheater Co., New York.
Stoker	Standard Stoker Co., Inc., New York.
Flexible staybolts	Flannery Bolt Co., Bridgeville, Pa.
Grates	Hulson Grate Co., Chicago.
Injector; water gage	The Edna Brass Manufacturing Co., Cincinnati, Ohio.
Feedwater heater	Worthington Pump and Machinery Corp., Harrison, N. J.
Throttle valve	American Throttle Co., Inc., New York.
Metallic connectors	Barco Manufacturing Co., Chicago.
Headlight and generator	Pyle-National Co., Chicago.
Steam-heat valves and connectors	Vapor Car Heating Co., Inc., Chicago.
TENDER	
Frame	General Steel Castings Corp., Eddystone, Pa.
Truck side frames	Pittsburgh Steel Foundry Corp., Glassport, Pa.
Brake beams	Chicago Railway Equipment Co., Chicago.
Tank valve	Crane Co., Chicago.
Truck spring planks	Youngstown Steel Car Corp., Niles, Ohio.

THE railroads of France for over five years bore the brunt of two of the most destructive phases of World War II—first the German occupation with its systematic robbing of all the valuable facilities not actually needed by the German occupation army and then the bombing of the transportation network by the Allies after the invasion. According to R. Morin, A. P. correspondent in Paris, French railroads lost more than 80 per cent of all their locomotives and passenger cars and more than two-thirds of their freight cars. Bombs, shells and the French underground also knocked out more than 2,000 miles of roadbed.

No one who has not actually been on the ground can visualize the extent to which the home economy of France has been handicapped by lack of rail transport to serve its industries, nor appreciate its urgent need for new motive power and equipment.

The construction of 700 new locomotives for the French railways, under a lend-lease credit arrangement, by three builders in the United States is a project of major significance and appropriate

The First Locomotive to Be Built in This Country for the French Government Since 1939—180 of This Type Are Being Built by Lima

ceremonies marked the delivery on July 30 of the first unit to a French Railway mission, headed by Robert LeGuille, by the Lima Locomotive Works at its Lima, Ohio, plant. The presentation of the first of the "Liberation" type was made by D. S. Ellis, vice-president in charge of manufacture of Lima, on behalf of that builder. The members of the French Railway mission, in addition to M. LeGuille were M. Andre Pellevat, deputy chief of the mission; Capt. Noel Concordet of the French North African railways; and Emile Auvity and J. M. Tapin, technical advisers of the mission. These locomotives, of the 2-8-2 type, are the first to be built, for France, in America since 1939. Lima Locomotive Works is constructing 180 of the 700.

Description of the Locomotives

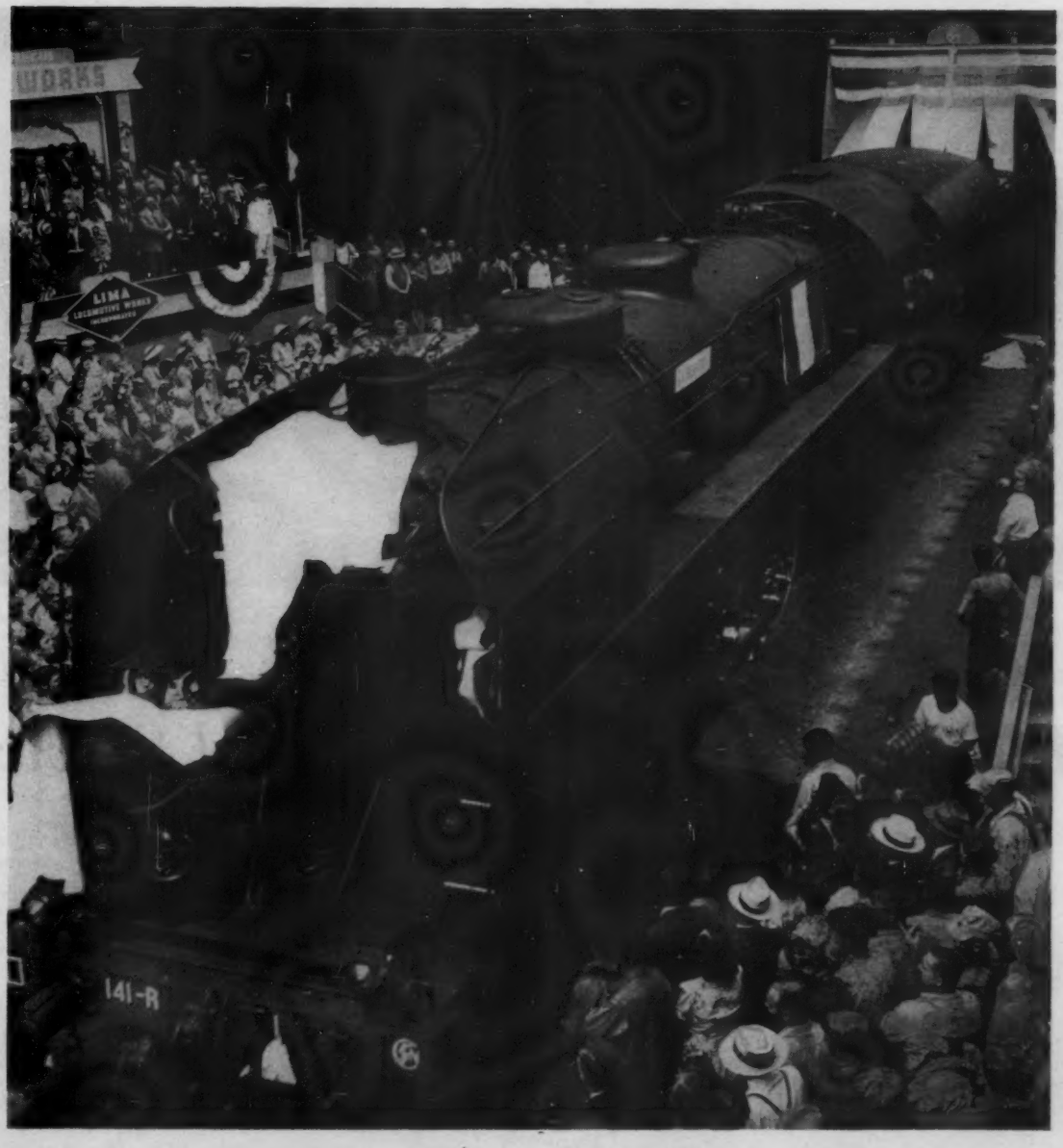
The 180 locomotives built by Lima bear the road numbers 141-R-1 to 141-R-180, are of the 2-8-2 wheel arrangement and have a total engine weight of 256,000 lb. The cylinders are 23½ in. by 28 in., the drivers 55 in. in diameter, and the boiler pressure 220 lb. per sq. in. The length over buffers of engine and tender is 79 ft. 3¼ in.

The boilers are of the conical type

General Dimensions and Weights of the U. S. War Department Locomotives

Type	2-8-2
Track gage, ft.-in.	4—8½
Road numbers	141-R-1 to 141-R-180
Service	Freight
Rated tractive force, engine, 85 per cent, lb.	44,500
Weights in working order, lb.:	
On drivers	176,000
On front truck	36,000
On trailing truck	44,000
Total engine	256,000
Tender (fully loaded)	160,000
Wheelbases, ft.-in.:	
Driving	17—0
Engine, total	35—8
Engine and tender, total	66—8
Driving wheels, diameter outside tires, in.	65
Cylinders, number, diameter and stroke, in.	(2) 23½ x 28
Valve gear, type	Walschaerts
Valves, piston type, size, in.	12
Maximum travel, in.	6¾
Boiler:	
Steam pressure, lb.	220
Diameter, first ring, outside, in.	73½
Firebox length, in.	102⅛
Firebox width, in.	78¼
Combustion chamber length, in.	40
Syphons, number	Two
Tubes, number and diameter, in.	175—2
Flues, number and diameter, in.	36—5⅜
Length over tube sheets, ft.-in.	17—0
Fuel	Bituminous coal
Stoker	Standard HT
Grate area, sq. ft.	55.5
Heating surfaces, sq. ft.:	
Firebox and combustion chamber	231
Arch tubes	....
Syphons	63
Firebox, total	294
Tubes and flues	2,405
Evaporative total	2,699
Superheating (Type A)	704
Combined evap. and superheat	3,403
Tender:	
Style	Rectangular
Water capacity, U. S. gal.	8,000
Fuel capacity, tons	12
Trucks	Four-wheel

At the Microphone Are Robert LeGuille, Left, Chief of the French Supply Mission and D. S. Ellis, Right, Vice-President in Charge of Manufacture, Lima Locomotive Works



The "Liberation" Leaving Lima's Erecting Shop

with an outside diameter of 73½ in. at the first course and 80 in. at the third course. The fireboxes are completely welded, have a length of 102⅛ in. and a width of 78¼ in. and are built with flexible stays located in accordance with American practice. The combustion chamber is 40 in. long and two syphons, located in the firebox, support the brick arch. There are 175 2-in. tubes and 36 5⅜-in. flues. The locomotives are equipped with Type A superheaters with tangential steam dryer and multiple front end throttle. The total evaporative heating surface is 2,699 sq. ft. and the superheating surface, 704 sq. ft., making a combined heating surface of 3,304 sq. ft. The locomotives are equipped with Edna Type J 5,500 gal. capacity injectors, Worthington No. 3 SAE feedwater heaters and Standard HT stokers.

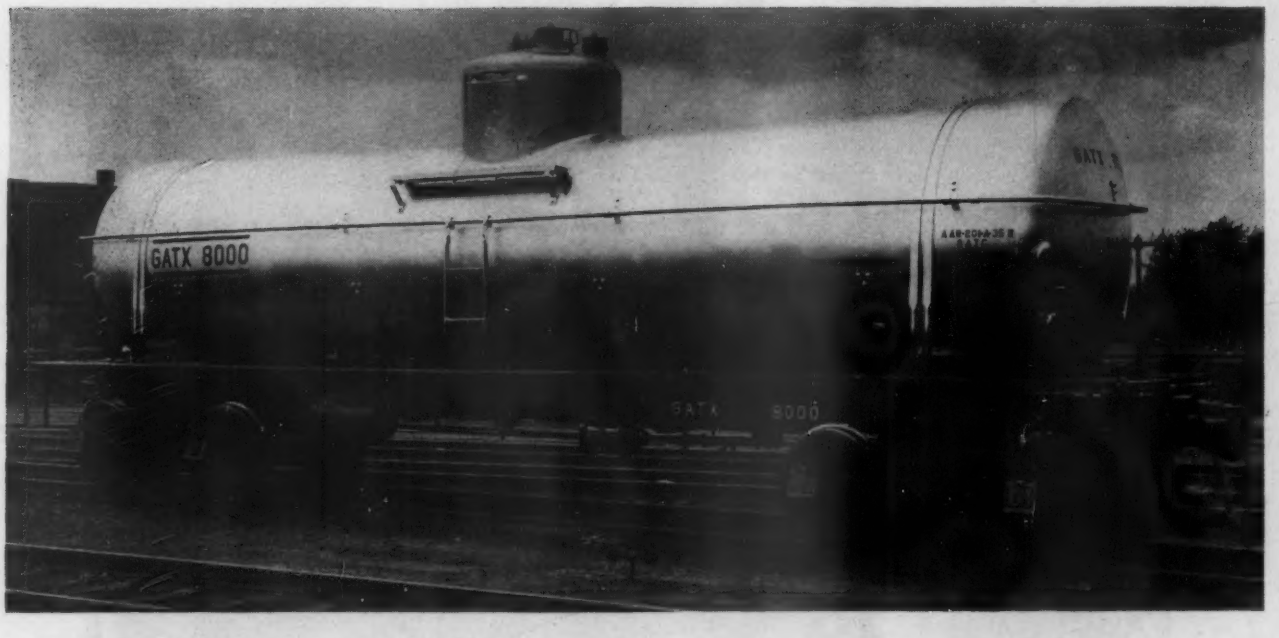
The two-wheel engine trucks are equipped with 36-in. wheels and Timken roller bearings, mounted on carbon steel axles. The trailer trucks are similarly equipped and have 42-in. wheels. The cylinders and frames are of cast steel and the driving wheels are of the conventional spoke type with 58-in. cast-steel centers, 65-in. o.d. tires and bronze driving box journal bearings.

The cylinders are two-piece cast steel with Hunt-Spiller cylinder and valve chamber bushings. The Walschaerts gear is controlled by power reverse gear—Franklin Type B on 90 engines and Alco Type G on the other 90. The crosshead is of the Laird two-bar type and the rods are medium carbon steel normalized and tempered. The ends are solid, with fixed bushings.

The lubrication of these locomotives is by means of oil, no grease fittings being applied. Two Nathan Type DV-6 mechanical lubricators are used; a 26-pint unit on the right side and a 10-pint on the left side. The stoker and feedwater pump lubricators are also Nathan. Oil lines are ⅜-in. copper tubing with flexible oil hose connectors.

The air brake equipment is Westinghouse Schedule No. 6ET with one 8½-in. cross compound compressor. The driver brake is arranged for a braking power of 66 per cent of the weight on drivers at 50 lb. cylinder pressure.

The tenders have General Steel Castings Corporation open-bottom cast-steel frames, 8,000-gal. riveted tanks and four-wheel trucks with bronze journal bearings, 42-in. multiple wear rolled steel wheels and Westinghouse No. 6ET brakes designed for braking power equivalent to 100 per cent of light tender weight of 50 lb. cylinder pressure. The tenders are equipped with Franklin E-2 radial buffer at the engine end and with screw and link type draw gear at the rear of the tender with Cardwell-Westinghouse Type V-14 friction draft gear. Twin buffers are used. Unit safety bars connect the engine and tender.



All-Welded Aluminum Tank Car Built in 1928

Aluminum Tank Gives Record Service

Car with 8,000-gal. capacity tank completes 17 years of service up to August, 1945, making a total of about 408,000 miles with relatively small cost for repairs

THE first aluminum tank car, consisting of an 8,000-gal. Alcoa aluminum tank mounted on a conventional steel underframe and trucks, was built in 1928 at the Sharon, Pa., plant of the General American Transportation Corporation, and used initially for the shipment of glacial acetic acid by the Niacet Chemical Company. In the ensuing 17 years up to August, 1945, the car demonstrated the general soundness of its design and the adaptability of aluminum to handling more or less corrosive shipments by averaging about 2,000 miles a month or a total of 408,000 miles with only minimum expenditures required for repairs.

An examination of the maintenance record of this car shows that, except for minor running repairs, the car was shopped only five times, namely: in 1930 when the original four lines of aluminum heater pipes were replaced with six lines of pipes; in 1936 for heater pipe repairs and car painting; in 1938 for further pipe repairs in conjunction with other light maintenance; in 1941 for paint touch-up and the application of new draft gears; and in 1945 for the application of AB brakes and painting, desired primarily for the sake of improved appearance. In spite of intensive use and operation, the maintenance cost of this car has been less than that of an equivalent all-steel car.

This first aluminum tank car, designed by the car builder working in conjunction with the Aluminum Company of America and the A. A. R. Tank committee, was stenciled Class III—For Experimental Use and marked ACAX-1000. After a little over one year's service transporting acetic acid, the car was returned to the General American Transportation Corporation and the car marking changed to GATX-8000. In March, 1930, the car was leased to Proctor & Gamble and assigned exclusively for the handling of glycerine.

General Construction

The tank of the car including the dome, fittings and heater pipes was fabricated of aluminum. For the 79-in. diameter shell proper, 3S alloy, an aluminum manganese alloy containing 1.25 per cent manganese was used because of its exceptional forming qualities. The heater pipes were seamless tubing of the same alloy, and the valve mechanism constructed of 17S alloy bar, an aluminum alloy of the duralumin type. The dome cover and outlet fittings were cast from No. 43 alloy, an aluminum-silicon alloy containing 5 per cent silicon.

Due to limitations in the size of plate available at the time the car was constructed, 16 plates were required for the shell and two for the dome. The bottom plates are $\frac{5}{8}$ in. thick and plates for the upper two-thirds of the shell, $\frac{1}{2}$ in. thick. The tank ends were spun from $\frac{1}{2}$-in. plate. The various sections of the main shell and dome were joined by gas-made butt welds. The dome was fillet welded to the shell and the castings were riveted on. The tank was designed for a working pressure of 25 lb. per sq. in. and, at 60 lb. test pressure, conforming to I. C. C. No. 103 specifications for tank cars, the factor of safety is $3\frac{1}{2}$.

While the design called for a normal rated capacity of 8,000 gal., the present capacity of the tank is 8,221 gal., including the dome. The light weight of the car as constructed was 33,600 lb. which has been increased to 33,900 lb. by the recent addition of AB brakes. This weight represents a saving of about 8,300 lb., as compared with a steel tank car of the same capacity.

Demonstrated Advantages

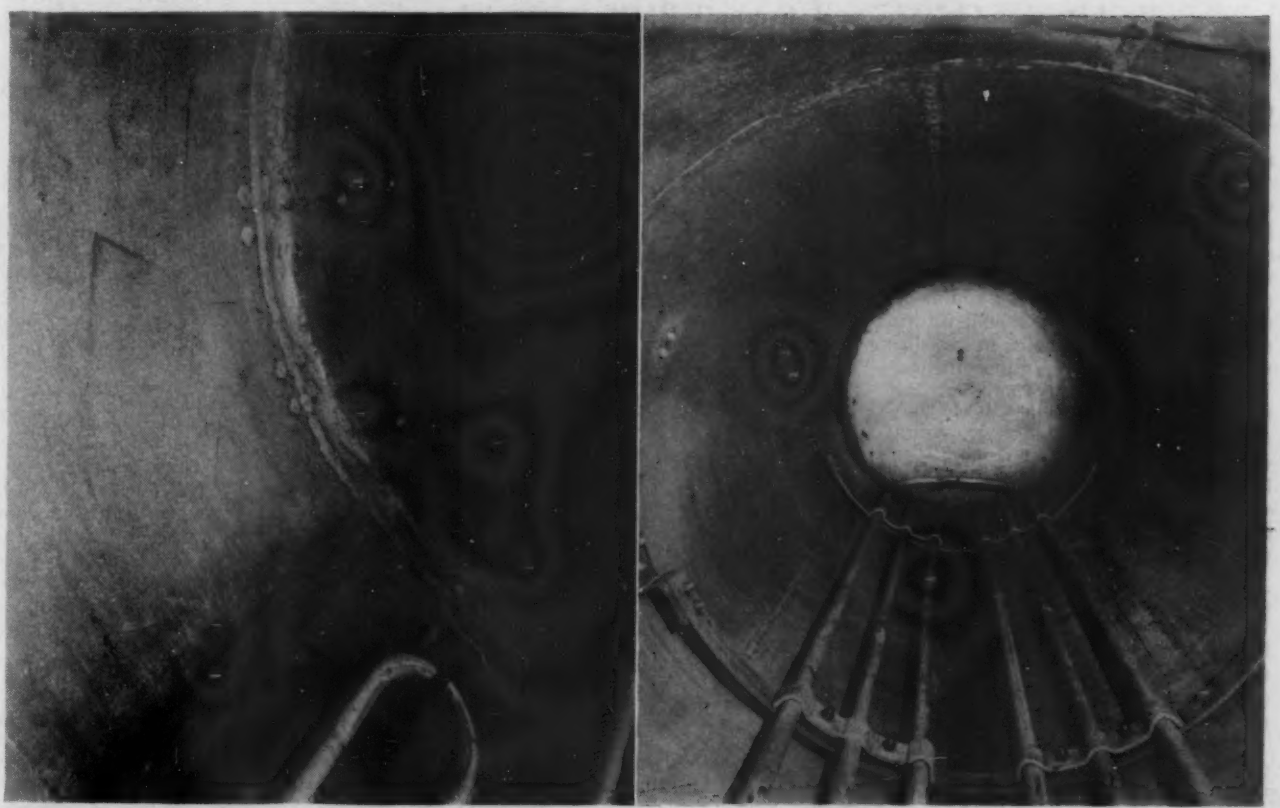
While definite operating and maintenance economies result from the use of light but strong and durable aluminum alloys in tank car construction, the primary advantage, as demonstrated by experience with the first aluminum tank car and many others subsequently built, is the ability to transport certain chemi-

End View Showing Safety Appliances Riveted to Meet I. C. C. Requirements

cals and food products in bulk without the use of special tank linings. The inert characteristics of aluminum enable it to handle such commodities as glacial acetic acid, glycerine, hydrogen peroxide, formaldehyde, naphthenic acid, nitric acid and numerous others without contamination of the shipments, or deterioration of the tank metal.

Since construction of the first aluminum tank car, the General American Transportation Corporation alone has built 147 cars with aluminum tanks, approximately 50 of which were of riveted construction. The others were welded. These cars have all been built for the shipment of particular commodities. In the latest design, limitations on aluminum plate size have been removed and the tank proper will consist of only three longitudinal plates, two heads and a reinforced dome assembled with butt joints and welded together as a unit, no more linear footage of welding being required than in a steel car. It is expected that over 50 of these cars will be constructed this year. The original car was gas welded, but the electric-arc process was employed on subsequent welded tanks. For new cars now under construction or contemplated, an improved type of automatic carbon arc welding has been developed.

Below Left—Interior View of Tank Showing Butt-Welded Joints and Safety Appliance Rivets—Below Right—Another View of Welded Joints in the Tank and the Aluminum Heater Pipe Application



L. L. White, Vice-President in Charge of Operations on the North Western, Using the Train Telephone in the Diesel Locomotive

North Western Tests Train Radio

Trials made in yard service at Milwaukee and on freight trains on 486 miles between Chicago and Council Bluffs

THE Chicago & North Western has completed a two-months program of testing radio telephone equipment for communication in yard service at Milwaukee, Wis., and on through freight trains on 486 miles between Chicago, Ill., and Council Bluffs, Iowa. The purposes of these tests were to determine whether the equipment was adaptable to the territories involved, and to assemble information concerning the benefits in expediting yard operations and train movements.

Within a radius of 12 miles of downtown Milwaukee the North Western has several yards, and certain locomotives with crews are assigned to handle cars between these yards and between the yards and numerous industries in this area. Radio equipment was installed on four of these locomotives, and in the yardmaster's office near National avenue. The aerial for this office equipment was located on top of an office building in the downtown business district one mile from the yardmaster's office. The aerial was about 250 ft. above the general level of the tracks.

This system provided two-way telephone conversation between the yardmaster's office and any of the four locomotives, or between any of the locomotives. With this telephone service, the conductors of the crews could keep the yardmaster informed concerning progress being made on various assignments, and receive directions from the yardmaster concerning other work to be done in the general location where they were. As an aid to the crews and yardmaster in utilizing the locomotives more effectively and in giving shippers prompt service in moving cars the communication system was quite satisfactory.

In Road Freight Service

Following the tests in the yards at Milwaukee the radio apparatus was used for road freight train service tests on 486 miles between Chicago and Council Bluffs. One Diesel locomotive and one car for rear-end service were equipped. At Clinton, Iowa, radio apparatus was installed in the yard office, with the aerial on top of the bridge over the Mississippi river at a height of about 85 ft. above the tracks. The tests included five round trips between Chicago and Council Bluffs and a one-way trip between Chicago and Clinton.

Two-way telephone conversation was available between the locomotive and the caboose on these road trips. When within 12 miles of Clinton communication was maintained between the yard office and either the locomotive or caboose of the train.

On several of these road trips an accurate record was kept of the instances in which the telephone train communication was used. On July 10 train No. 251 left Proviso yard in Chicago at 11:45 a. m. with 108 cars, 5,300 tons, and arrived at Council Bluffs at 10:30 a.m., July 11.

When preparing to start the train the conductor used the train telephone to advise the engineman when the air line was pumped up at the caboose, and all were on board ready to go. This saved about 5 minutes as compared

The Conductor in the Caboose Using a Train Telephone to Talk to Engineman

with passing hand signals. At Elburn, Ill., where the train was run on the "wrong" main for a short distance on account of steel changes on the normal-direction track the conductor used the train telephone to tell the engineman when the rear of the train had passed the crossover, so that the train could be accelerated at once rather than drag along at slow speed for considerable distance. This saved some time.

At De Kalb, Ill., when the train was ready to start the telephone was used by the conductor to tell the engineman that the flagman had returned to the caboose. This saved 5 minutes. When passing Nashusa, Ill., the operator gave the conductor a sign to indicate that something was defective in the train. The conductor used the telephone to tell the engineman to stop, otherwise the conductor would have pulled the air at the caboose which might have caused the train to part. The trouble was that a door on a gondola had opened so that chunks of ore were falling on the track, and the door was in a position so that it might drag. While correcting the defect and getting the train under way the time saved by the use of the train telephone was about 20 minutes.

While in the yard at Clinton, and while preparing to depart, the telephone was used to save about 10 minutes. At Beverly, Iowa, the engineman wanted to stop the train for inspection, and he communicated with the conductor so that the train could be stopped with rear just clear of the crossover. This saved 5 minutes. When ready to depart the telephone was used to inform the engineman when the flagman was on the caboose, thus saving 5 minutes more.

When approaching Tama, Iowa, the conductor and engineman used the train telephone to discuss where they would clear the main track for certain westward passenger trains. The train was stopped and the conductor used a wayside telephone to talk with the dispatcher who stated that the passenger trains were 20 minutes late. Then the conductor and engineman used the train telephone to arrive at the decision that time was available to go on from Tama to Marshalltown, 18 miles, ahead of the passenger trains. In addition to being able to go to Marshalltown at least 10 minutes were saved at Tama.

At Marshalltown, when crossing over to the eastward main track to let the passenger trains by, the conductor used the train telephone to tell the engineman when the caboose was past the crossover, and when to back the train again. This saved 10 minutes. At Boone, Iowa, the conductor told the engineman when the caboose was in the clear, thus saving 5 minutes.

About 3:00 a.m. when passing Grand Junction, Iowa, the operator gave the conductor the hot-box sign, and the conductor used the telephone to tell the engineman to stop the train. The hot box was located near the center of the train. Returning to the caboose at 3:17 a.m., the conductor used the telephone to tell the engineman to back up so that the car could be set out at Grand Junction. The time saved by the train telephone was estimated at 30 minutes.

The Yardmaster in His Office at Milwaukee Talking to the Enginemen of Yard Engines Several Miles Away

At Carroll, Iowa, the siding was not long enough to hold the entire train, but a short spur off the east end of the siding would hold the excess cars. By using the telephone between the conductor and engineman, the train pulled in the siding and backed part way on the spur. As compared with the best that could have been done without the telephone a saving of 20 minutes was made.

When passing Logan, Iowa, the agent flagged the train. The conductor found a car with a load of pipe which had shifted. By using the train telephone to decide to run slowly to Missouri Valley and set the car out there a saving of 20 minutes was made.

Thus on this one 486-mile run between Chicago and Council Bluffs, a total estimated saving of 145 minutes in delays was made by using the radio train telephone system between the head-end and the rear-end of the freight train. In a report made by the railroad officers in charge of the tests, certain conclusions were offered as follows:

Telephone communication between the head end and rear end of freight trains can make a substantial saving in train time. Considering the records of the five round trips, it appears that an average saving of time in long freight trains between Chicago and Council Bluffs might be approximately an average of 1 hr. 15 min. each direction. The use of wayside radio telephone stations, operating in the same system with the equipment on the locomotives and cabooses, would help considerably. If the conductor had a walkie-talkie, and if there had been radio stations in operation at several wayside stations in addition to the one at Clinton, it is estimated that an additional saving of 70 minutes train time could have been saved on the trip discussed previously.

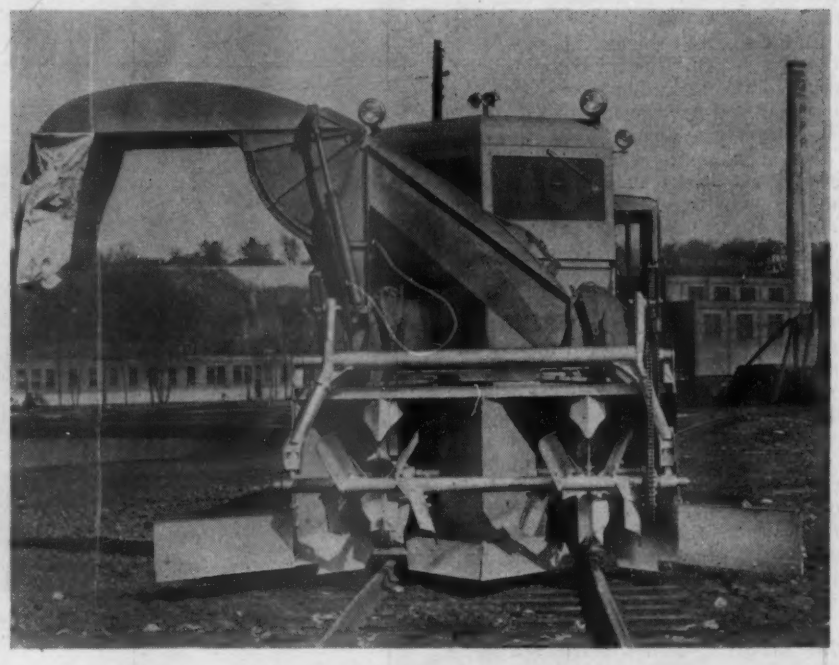
Engineman in Diesel Electric Switching Locomotive Using Telephone Equipment

Radio Equipment Used on Tests

The radio telephone equipment used on these tests on the North Western was furnished by the Bendix Radio Division of the Bendix Aviation Corporation. This apparatus operated on 156.5 megacycles. The output of the transmitter is 8 watts, the antennae is a modified J type. On the locomotive the power for operating the radio was taken from the power available. For the set on the rear end of the train, power was taken from a storage battery on an old club car which was connected ahead of the caboose.

"Let Ole Man Winter Come—We're Ready"

Terminal company officers express confidence in a new machine for removing snow and ice from station tracks — Track-mounted burner for clearing switches also a very important factor



Front-End View of the Plow-Loader in Operating Position, Showing the Plow, Snow-Gathering Wings, Raker Bar and Discharge Chute

COME what may in the way of snow and ice in the winter ahead, the St. Paul Union Depot Company, which operates the Union Passenger Terminal at St. Paul, Minn., is satisfied that it is prepared—and this, in spite of any labor shortage that may prevail at the time. This confidence is based largely on its experience late last winter with a newly developed ice and snow loader for clearing the station tracks of snow and ice, coupled with the known effectiveness of a car-mounted snow melter, which has been used for many years by the terminal forces in keeping single and slip switches clean and operative under even the most severe conditions.

With the removal of ice from between and adjacent to the rails of station tracks, the biggest winter problem at the terminal—one that is winter-long, from December to March—the greatest interest centers in the machine on hand for ripping out and loading this ice. In fact, this machine has demonstrated that it can accomplish in a few hours what formerly required the almost continuous efforts of a sizable force of men. On one occasion last winter the machine flanged the ice from 11,000 lin. ft. of 11 station tracks and loaded a part of it in 4 hours, work which, on the basis of previous experience, would have required a crew of 12 men eleven 10-hour days to complete with picks and shovels.

The St. Paul Union Depot property, extending in a general east and west direction, includes a layout of 23 tracks directly back of the station building, all but two of which (freight tracks) are served by umbrella-type train-sheds between alternate pairs of tracks, affording protection to approximately 13,400 lin. ft. of low-level concrete platforms. The entire terminal extends over approximately 4,000 ft. from end to end, and includes a total of 13.02 miles of tracks, with 39 double-slip switches and about 90 turnouts.

Seven roads use the Union Station facilities at St. Paul—the Northern Pacific, the Great Northern, the Chicago, Milwaukee, St. Paul & Pacific, the Chicago, Burlington & Quincy, the Chicago & North Western, the Minneapolis, St. Paul & Sault Ste. Marie, and the Chicago Great Western—and together they operate as many as 336 trains into and out of the terminal each 24-hour period. With such an intensity of movements, not including the almost continuous movement during certain hours of two switchers, the threat of a winter tie-up by snow or ice has always been a matter of serious concern.

Throws Snow 125 Ft.

The new snow and ice loader, which is an adaptation of a highway-type unit which has been furnished to the War Department in large numbers, largely for snow clearing work on military highways and at war plants and air fields, is a car-mounted unit, the car frame carrying a fully enclosed engine and operator's cab and supporting the entire plow mechanism at its front end. Known as the Sno-Flyer, the unit has an over-all length, from rear coupler to front of plow, of 35 ft., and over-all width of 9 ft. 7⅜ in., and an over-all height, above top of rail, of 12 ft. The ice cutting arrangement, in the form of a wedge-shaped scarifier-flanger, is mounted about midway between the car trucks, which are spaced 14 ft. center to center.

The snow and ice loader at the front end of the unit consists essentially of a nose-type plow, with gathering side wings, which, together, feed snow and loosened ice back to two 10-in. wide vertical slots in the plow face, one directly over each track rail. Operating within each of these slots is a multiple vane rotor, the two rotors being mounted on a common shaft, and designed to operate at speeds from 300 to 400 r.p.m. These rotors displace all snow and ice fed into them and discharge it out of openings directly above at high velocity.

In the standard highway model of the machine, the discharged material is deflected to each side of the unit in two broad arcs entirely clear of the roadway, up to distances exceeding 125 ft., if desired. In the unit developed for the Depot Company, to meet the conditions imposed by the side loading of cars on an adjacent track, a different arrangement is employed, in which the right-hand rotor (facing the front end of the machine) discharges its load of material upward and laterally to the left at high velocity over the underside of a fixed, curved metal chute, at the upper end of which is a pivoted extension section, which directs the flow of material out to the side at the angle desired. At the same time, the material discharged from the left-hand rotor moves upward and laterally to the left at high velocity to the outer end of the fixed chute, where it joins the flow of material discharged from the right-hand rotor.

The pivoted chute extension, which has a concave downward face, and ran over-all length of 8 ft. 3 in., can be raised or lowered through an arc of approximately 90 deg. from a near vertical position close to the side of the plow, in the clear, when not in use, to a maximum position upward of about 15 deg. above the horizontal. Through this range, in combination with the controlled speed of the rotors, and thus the velocity with which the material is discharged, the

material can be thrown wide of the machine, over adjacent tracks, up to a distance of 125 ft., or it can be deposited on flat cars on an immediately adjacent track. When used to load cars, which is one of the principal uses to be made of the unit at the terminal, a canvas apron will be attached to the outer end of the pivoted chute section to help direct the discharged material downward to the car deck with minimum spillage.

Several Special Features

Other features of the plow arrangement include the gathering wings on opposite sides, which, together, afford a maximum normal plow spread of 14 ft., or 7 ft. each side of the center line of track; provision for raising and lowering the entire plow assembly from a point 12½ in. above top of rail to a point 3 in. below top of rail; and lateral adjustment of the entire plow assembly 12 in. to each side, affording a maximum reach of 8 ft. from the center line of track to one side or the other as conditions may make desirable to produce the most effective results, or minimum clearance of only 6 ft. from the center line of track where this will facilitate clearing intertrack obstructions.

Still another feature of the plow is a rotating raker bar that extends out in front of the plow itself, which, revolving at a speed of approximately 60 r.p.m. breaks up any large particles of snow and ice encountered and feeds them back to the rotors. This bar, mounting four specially-shaped and sloped paddles toward each end, directly in the paths of the rotors, can be raised and lowered through an arc, from a point where its paddles just clear the tops of rails, to a point where the tops of the paddles lie a distance of approximately 7½ ft. above the top of rail. This latter feature makes the machine particularly effective in breaking down drifts when plowing deep snow. All of the plow attachments or functions mentioned, including the pivoted chute extension, the vertical and lateral movement of the plow assembly, and the vertical movement of the raker bar, are hydraulically controlled from the front of the operator's cab. The single exception is the movement of the flared gathering wings, which are braced outward or pulled in manually as desired.

Power for the operation of the two rotors and the raker bar, as well as hydraulic pressure for the operation of the various other parts of the unit, is furnished by two 6-cylinder, 100-hp., Minneapolis-Moline gasoline engines, housed within and on opposite sides of the plow cab. These engines are to be used singly or together as required, depending upon snow and ice conditions, the speed at which removal is desired, and the distance it is required to throw the material.

Ice Cutter and Flanger

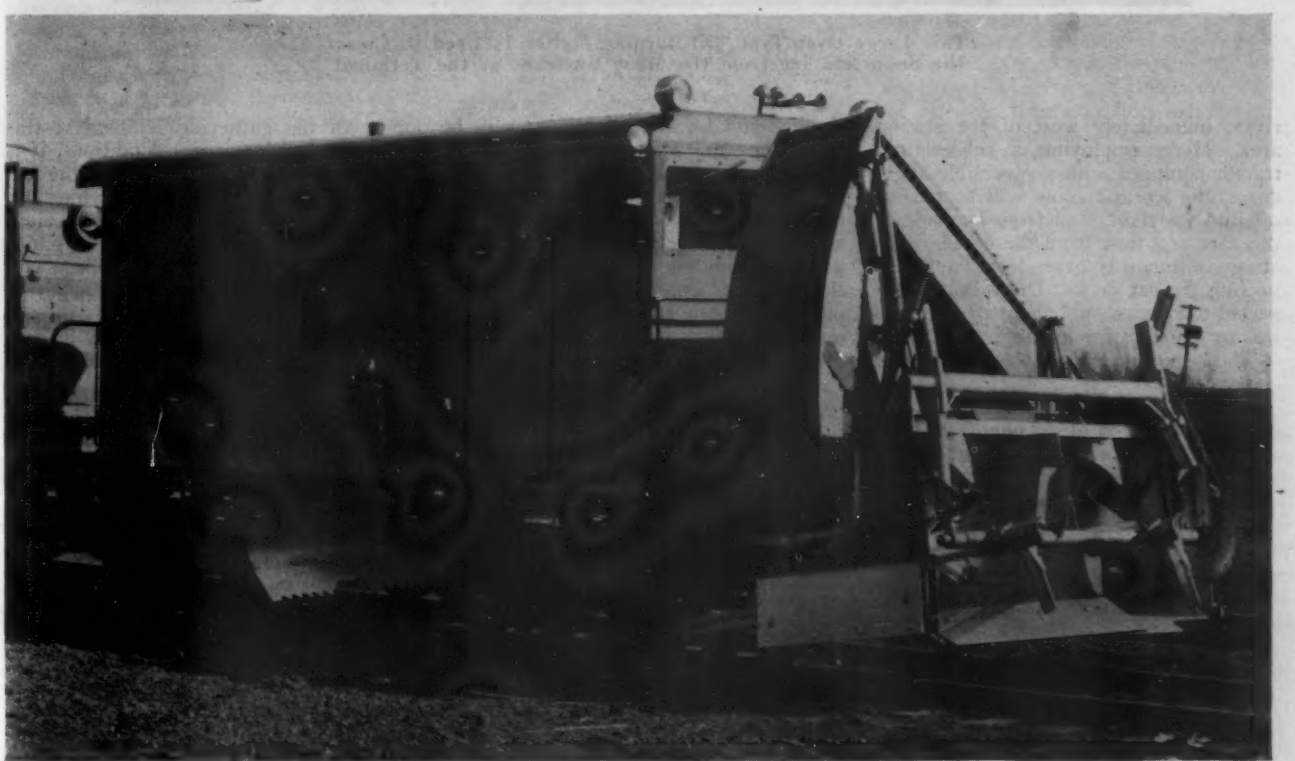
The feature of the plow that will find greatest use at the St. Paul terminal is the ice cutter and flanger. This is entirely independent of the front end loading unit already described and, in general, consists of two heavy curved steel blades flared back from a common point in the center of the track. The special features of these blades include a series of sharp cutting teeth along their bottom edges, their hydraulic operation from a point 3¾ in. below the top of rail to clearance of 5¾ in. above the top of rail, and their length and flare, which removes the ice to points approximately in line with the ends of the track ties and piles it at these points for subsequent removal by the front-end plow assembly in a second pass of the machine.

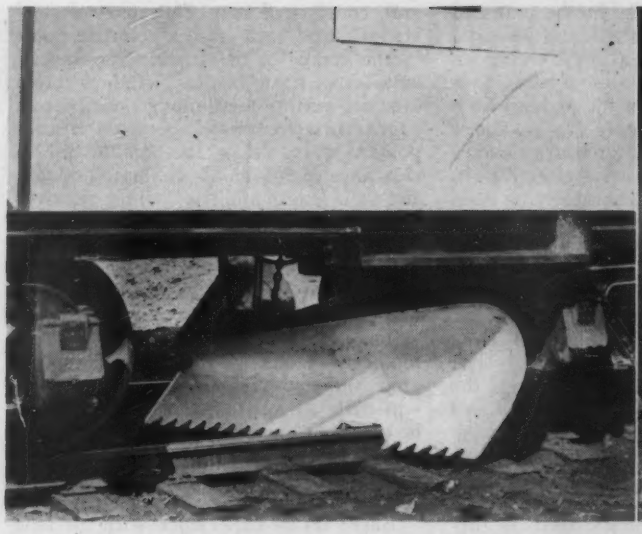
The plow will be moved about the terminal by the six-wheel steam locomotive employed there in switching operations, while the various plow mechanisms will be operated by a crew of two men in the cab, supplemented by a foreman on the ground, who will direct operations and warn of obstructions.

Based on its experience with the new plow late last winter, the St. Paul terminal has definite plans for operating the machine during the coming winter. Through the station tracks proper, both snow and ice will be cleared from one track at a time, loading directly onto a string of six flat cars on the adjacent track between platforms. Thus operated, it will also load out any snow that may have fallen onto the platforms themselves, since this snow will have previously been plowed into the track space by means of the wheeled-tractor plows which the company uses for this purpose.

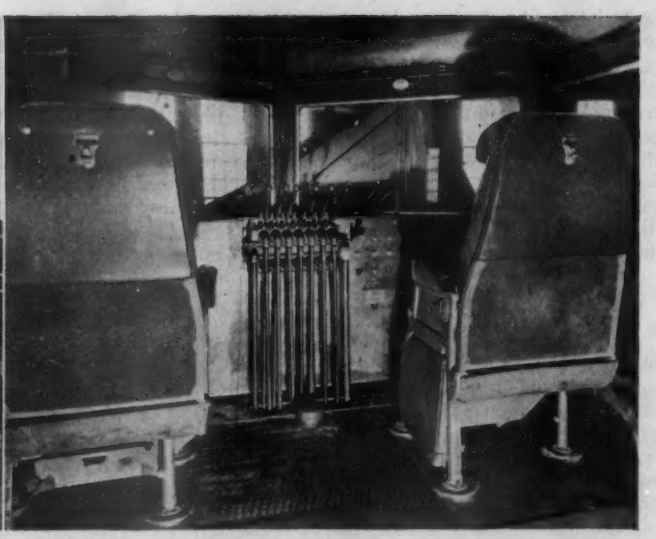
When all of the cars have been loaded the switch engine will move the plow into the clear and then pull the loaded cars to the point of disposal. At St. Paul this point will be, as in the past, the single-track bridge of the Chicago Great Western over the Mississippi

Three-Quarter View of the Snow Plow-Loader, Showing the Plow and Ice Flanger in Raised Position, and the Loading Chute Extension Lowered in the Clear





Close-Up View of the Ice Flanger Blades, in Operating Position, Beneath the Center of the Car



The Operating End of the Plow Cab, Showing the Various Hydraulic Control Levers

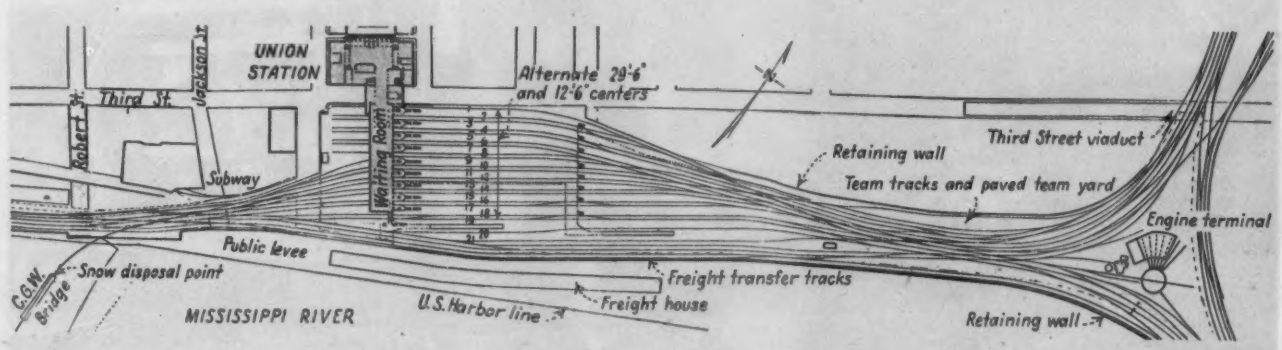
This Large Oven-Type, Oil-Burning Melter Is Used to Clear the Snow and Ice from the Many Switches at the Terminal

river, immediately west of the station area. Here, employing a rubber-tired tractor equipped with a reversible angle dozer, the ice and snow will be pushed off into the river, first from one side of the cars and then from the other, operating continuously over steel plates connecting the car decks. Unloading is expected to require only about 20 min., releasing the cars for loading.

The speed of operation in both the ripping and loading operations will be about four miles an hour, and, on the basis of performance last winter, it is expected that even the longest tracks at the station can be cleared of ice and snow in a matter of 10 to 15 min., depending upon interferences with operations, such as water, steam and electrical outlets between tracks, which may require the raising and lowering of the plow, shifting it laterally, and adjustment of the gathering wings. At this rate, even under severe conditions, it is expected that all of the tracks at the terminal can be cleared in a day, which is a far cry from the experience of previous winters when, on occasions, extra gangs of as many as 70 men have been employed up to 90 hours to clean up severe ice and snow conditions.

It is expected that little if any loading

(*Continued on page 412*)



General Plan of the Track Layout at the St. Paul Union Station

Inducing Heavier Loads per Car

A July I. C. C. decision confirms view expressed in recent discussion of this subject that some Commissioners look with favor on alternative rates favoring the heavier loads

By G. LLOYD WILSON
Professor of Transportation & Public Utilities, University of Pennsylvania

THE recent partially concurring opinion of Commissioner Mahaffie, and that of Commissioner Alldredge in which Commissioner Miller concurred, in *Iron and Steel to Iowa, Minnesota, Michigan and Wisconsin* are strong support for the belief that some members of the Interstate Commerce Commission may look with favor upon reasonable differences in carload rates conditioned upon different carload minimum weight.[1]

Commissioner Alldredge said in part that, while it is true that the Commission has in several cases in the past disapproved alternative rates and carload minimum weight, the decisions reveal "some confusion of thought." He states that a reading of the past decisions discloses that "much of what has been said was predicated upon misconceptions of the nature, purpose, and effect of rate-making upon the basis of dual rates and carload minimum weights.

Conflicting Opinions

In the *Container Service Case*[2] and in some other cases dual rates and minima have been condemned as tending unduly to prejudice the interest of small shippers and unduly to prefer large shippers. An opposite conclusion was reached in *American Popcorn Co. v. A. T. & S. F. R. et al.*[3] and other cases where it was found that such a basis of rates was sometimes urged because of the necessities of small dealers and trade conditions. These decisions tend to confirm the observations made by the present writer in recent articles in *Railway Age*, "How to Retain Heavier Loads Per Car," that, although this basis of alternative rates and minima may not be desirable with respect to all shippers and all traffic, the desirability of this and other plans for inducing higher carloadings of freight should be considered in the light of the reasonable requirements of different shippers and commodities.[4]

The opinions expressed by the Commission with respect to the advantages and disadvantages of dual or multiple freight rates conditioned upon different carload minimum weights are not in harmony. In some cases the Commission found that such rates resulted in inadequate revenue per carload and promoted the wasteful use of equipment.[5] In other cases this mode of rate-making was found to be conducive to the promotion of carriers' revenues and to the conservation of equipment.[6] In other cases, cited in the articles referred to above, the Commission approved this plan of rate-making.

Commissioner Alldredge stated that although "there may well be circumstances in which alternative rates and minima are clearly improper . . . it does not follow by any means that they should be sweepingly condemned. Investigation will show that their condemnation for the most part has been in decisions rendered years ago when that method of rate-making first came into use." He stated that alternative rates and minimum weights by motor carriers had been approved by the Commission in a number of motor carrier rate proceedings in several different rate territories and a number of different commodities.[7]

In his separate opinion Commissioner Alldredge cites with approval the comments of the Commission in *Arkansas Waste Dealers' Assn.* in which it was stated that no sweeping generalization with respect to alternate rates and weights was possible, but that, when this method of rate-making was necessary and proper to meet the needs of particular traffic, it had been approved or even prescribed by the Commission.[8]

Rigid Minima Not Realistic

In *I. and S. Docket No. 5269* Commissioner Alldredge stated his view that the circumstances surrounding the transportation of iron and steel articles to points in the states of Minnesota, Iowa, Michigan, and Wisconsin justified the belief that alternative rates and minimum weights would be in the interest of the railroads, manufacturers, and jobbers. He pointed out that motor carrier competition is an important element which must be considered by the railroads in making rates. Low carload minimum weights place railroads in position to compete with motor carriers. Higher alternative minimum weights coupled with higher rates protect the railroads' revenues and promote efficiency and economy in transportation services. The alternative rates and minimum weights were proposed for use in connection with about 150 different articles with differing loading characteristics and uses. Some manufacturers ship many of these commodities, others but a few of them. Some of the shipments are articles of light-loading characteristics, others are of heavy-loading nature. Into the larger cities, particularly to Minneapolis and St. Paul, the volume of traffic is heavy and comprises many of the articles, while to other smaller communities in the territory the traffic is light and the number of commodities is restricted.

Concluding, Commissioner Alldredge, in his separately concurring opinion concurred in by Commissioner Miller, remarked:

"Everything considered, it appears that the prescription of a rigid minimum may prove to be not well adapted to the varying needs and circumstances disclosed by the evidence."[9]

Larger Earnings per Car

Commissioner Mahaffie in his separate opinion concurred generally with the Commission's conclusions excepting that in which it found that the non-establishment by the carriers of alternative bases of rates on iron and steel articles subject to alternating carload minimum weight of 60,000 lb. and 80,000 lb. had not been shown to be unreasonable.[10] He conceded generally that the precedents cited by the Commission supported its finding with respect to alternative carload minimum weights and rates but urged that the reasoning on which the cases were based be re-examined in the light of the present situation. He pointed out, as did the author in the articles on "How to Retain Heavier Loads Per Car" in *Railway Age*, that the late Commissioner Joseph B. Eastman in his dissenting opinion in *Rate Structure Investigation, Part 6, Iron and Steel Articles* in 1930 had emphasized the need for and suggested a basis for a lower rate at the higher carload minimum for certain articles on the iron and steel list.[11] He pointed out that in this case the higher alternative rate of 20½ cents per

(1) *I.C.C. I. and S. Docket No. 5269, decided* July 9, 1945.
(2) (182 I.C.C. 653, 662), 1932.
(3) (182 I.C.C. 230, 232), 1932.
(4) *Railway Age*, July 21 and 28, 1945.
(5) *Mathieson Alkali Works v. L. and N.R. Co., et al.* (153 I.C.C. 784), 1929.
(6) *Canned Goods Between Points in California, etc.* (156 I.C.C. 375), 1929.
(7) *Midwest Motor Freight Bureau v. Eichols et al.* (4N I.C.C. 755), 1938; *Roofing From the East to the South*, (10N I.C.C. 589, 1938; and *Electrical Supplies, etc., vs. Shulman & Sons Express*, (10N I.C.C. 399), 1938.
(8) *Waste Dealers' Assn. of Arkansas v. C.R.I. & P., et al.* (226 I.C.C. 683) 1938.
(9) *I. and S. Docket No. 5269*, Sheet 43, July 9, 1945.
(10) *Ibid.*, Finding 3, Sheet 39.
(11) *I.C.C. Docket No. 17000, Part 6*, (161 I.C.C. 608), 1930; see also (155 I.C.C. 517), 1929.

100 lb. and the lower alternative carload minimum weight of 40,000 lb. produced revenues of $82 per car, while the lower alternative rate of 13 cents and the higher alternative carload minimum weight resulted in revenues of $104 per car. The Commission upon reconsideration, however, affirmed the finding in its earlier report and denied the alternative rates and minimum weights.

He urged that the position expressed by the Commission with respect to the consideration to be given to commercial requirements in fixing carload minimum weight and rates was never intended to perpetuate minimum weights based upon "conditions in 1870 and 1880 which have since become obsolete. . . . Nor should that principle be controlling in disregard of the increasing size and capacity of equipment during the past 30 to 50 years."[12]

In the *Salt Cases of 1923*, the Commission stated that the modern doctrine with respect to carload minimum weights had been more clearly expressed in its decision in 1922 in *Lumber Carload Minima*. Here the Commission stated:

"While minima should be high enough to insure a proper utilization of equipment, they should not exceed what can be reasonably and generally loaded. Shippers can not be expected in all cases to fit their lumber to the great variety of cars that may be furnished them, when there is practically no equipment designed especially for lumber traffic. In fixing reasonable minima some leeway should be accorded for commercial considerations and the minima should not require the loading of all cars to their utmost capacity."[13]

In expressing his conviction that heavier car loading at compensatory rates is one of soundest available means of sustaining railroad freight traffic and revenues, Commissioner Mahaffie stated, the crux of the problem of heavier loading with which many students of the problem will agree:

"In order to increase both the shipper may well be given an incentive that will make it profitable for him to load more than the ordinary commercial minimum. The future success of the railroad industry is more dependent on heavy volume at low cost than on any one factor. Incentive loading would help."[14]

Suggested Principles

In working out a plan of inducing the retention of heavier loading of cars it is suggested that consideration should be given to these principles whatever may be the precise formula of the relationship of rates and carload minimum weights:

1. Different plans of rate-making and single, dual, or multiple carload minimum weights should be considered in the light of the physical ability of shippers to load different commodities and the commercial considerations which make necessary or desirable the minimum weights. Commercial conditions and requirements cannot be ignored nor can they be standardized.

2. The inducement given by the carriers in the form of lower rates to induce heavier loading, as a minimum, should be sufficient to defray all extra expenses of the heavier loading and unloading, including compensation for additional dunnage and bracing necessary to protect the heavier loads.

3. The reduction in rates and higher minimum weights conditioned upon heavier loading should be sufficient to insure loadings to approximately the present loadings, due consideration being given to the fact that many shipments are now loaded to the marked capacity of the cars.

4. The amount of the reduction should consider both the present minimum weights and average actual weights to which cars are now loaded so that shippers who have co-operated in the past through high average carloadings may not be penalized by having the reductions in rates based upon the average carloadings rather than upon the present carload minimum weights, and shippers who have loaded only to or slightly above carload minimum weights unduly preferred by reductions based upon their relatively lower carloadings.

5. Consideration should be given to working out a formula that will use as factors:

a. Present carload minimum weight,
b. Present carload rate upon that minimum weight,
c. Tare weight of the car,
d. Present average loadings,
e. Proposed lower carload rate,
f. Proposed carload minimum weight.

Larger Earnings per Car

The consideration of all these factors would produce a rate per gross ton-mile which would exceed the gross ton-mile earnings on the lower carload minimum weight at the higher rate and yield revenues at least equal to and doubtless exceeding the revenues per gross ton-mile upon the present carload rate and actual average loadings per car.

If the tare weight of car and blocking and distances are assumed to be equal a consideration of these factors would produce this result:

Present rate, 40 cents per 100 lb.—present rate.

Present carload minimum weight, 40,000 lb.—present carload minimum.

Present average carloadings, 56,000 lb.—present average loading.

Proposed carload rate, 30 cents per 100 lb.—proposed rate.

Proposed carload minimum weight, 80 000 lb.—proposed carload minimum.

Present rate (40 cents) × Present min. loading (40,000) = $160 per car.

Present rate (40 cents) × Present avg. loading (56,000) = $224 per car.

Present rate (30 cents) × Proposed min. loading (80,000) = $240 per car.

Thus for a 100 per cent increase in the carload minimum weight and a 52 per cent increase in the carload weight over the present average loadings, the shipper would receive a 25 per cent reduction in rate and the carrier a 50 per cent increase in revenues per car over the revenues based upon present rates and carload minimum weight, and a 7 per cent increase in revenues per car over the present revenues based upon actual average loadings at the present rates. These figures are purposely crude in order to illustrate the method. They do not attempt to express any views as to the relationship of present and proposed rates or present actual and proposed carload weight, but merely to serve as concrete examples of the possibility of working out an equitable formula.

Ole Man Winter

(*Continued from page 410*)

of snow and ice will be required out on the leads at both ends of the station area, since demonstration last winter showed that the machine will pick up and throw the material across as many as seven tracks into unoccupied areas alongside. Where it may not be desirable to make the full throw for any reason, the material can be loaded on cars as described previously, or it can be thrown across one or more tracks at a time, working progressively toward the side of ultimate disposal. It is in this latter method of operation that it is expected machines of this type will find their greatest effectiveness in clearing freight yards. In team yards, any of the various methods of operation can be used—throwing the snow clear of the track, loading onto flat cars, or loading into highway trucks operated on adjacent driveways. Here, snow on the driveways will be pushed out onto adjacent tracks for loading or other disposal by the machine.

Burner to Clear Switches

The removal of snow from the many double-slip and simple turnout switches at the terminal will be effected again in the coming winter by an over-type burner, which, experience over many winters has shown, will clean up any double-slip in a matter of three to six minutes, and so warm the ground and track structure as to melt any additional falling snow for a period of about one hour. The burner as a whole includes essentially an old 2,000-gal. engine tender, supported by a truss arrangement an open-bottom oven at its front end, 11 ft. wide by 12 ft. long, which is raised and lowered over a switch as the machine moves forward. The tender tank, which carries fuel oil for the burners, is supplemented by a 1300-gal. fuel tank on top, and is moved about the terminal by means of the same six-wheel steam switcher that will be used to handle the snow plow.

The oven, which is dropped down di-

(12) *I. and S. Docket No. 5269*, Sheet 41, citing also *Salt Cases of 1923, Sterling Salt Co. v. A.A.R. Co., et al.* (92 I.C.C. 388, 399), 1924; and *I. and S. Docket No. 76, In the Matter of the Suspension of the Western Classification* (25 I.C.C. 442, 607), 1912.
(13) *I.C.C. Docket No. 10128*, (68 I.C.C. 98, 106), 1922.
(14) *I. and S. Docket No. 5269*, Sheet 41.

rectly on the rails when melting, and raised to a point about five inches above the rails when being moved, houses eight torch-type oil burners, all of which burn standard Diesel fuel oil and blow toward the center of the oven pan. When clearing simple switches one lowering of the oven on the rails for a minute or two is sufficient to free the entire switch. When clearing double-slip switches, however, the oven is lowered progressively four or five times throughout the length of the switch in a series of stops and starts of the burner as a whole. Operating in this manner, it requires about five minutes to clear a double slip, while a single slip can be cleared in from two to three minutes. At this speed all switches at the terminal can be cleared in eight to nine hours.

Operation of this unit by the terminal forces during the last 25 years has demonstrated its effectiveness, and the only serious difficulty that has ever been encountered has been with the water of melting. However, with the installation of a large number of catch basins throughout the terminal area during the last three years, in conjunction with a system of subdrainage and storm sewers, this problem has been practically overcome, it now being sufficient for the trackmen accompanying the burner to open up short waterways to the catch basins to insure adequate drainage.

Snow and ice control problems at the terminal are under the general direction of C. S. Christoffer, vice-president and general manager of the St. Paul Union Depot Company, who was responsible for the development and purchase of the flange-wheel mounted snow-plow loader. Actual snow and ice removal operations at the terminal are under the immediate supervision of N. F. Podas, chief engineer of the Depot Company. The Sno-Flyer plow was built by the Wm. Bros Boiler & Mfg. Co., Minneapolis, Minn.

COMMUNICATIONS . . .

How Much Competition In Transportation?

KANSAS CITY, MO.

TO THE EDITOR:

In the August 4 issue of the *Railway Age* appeared an interesting review by Elmer A. Smith of the recent book by A. C. Wiprud entitled "Justice in Transportation." While my viewpoint as a shippers' representative is necessarily somewhat different from that of Mr. Smith, I am in agreement with him in his conclusion that the propositions advanced in Mr. Wiprud's book will not bear critical examination. There is one matter which, however, in my opinion, Mr. Smith does not treat adequately; namely, the existence as a fact of competition between the railroads in the making of freight rates, and I am writing this letter because I believe that the current discussion of the general subject does not bring this fact into the prominence to which it is entitled.

Mr. Smith says:

> "One fundamental fallacy permeates every chapter of 'Justice in Transportation.' It is thus stated in the last chapter: 'Competition must continue to be the keystone of our governmental policy in transportation' ";

and then as I read his article it leaves the impression that competition has been displaced by regulation.

It is true, of course, that the Interstate Commerce Commission over its long history has by rigid orders removed a large body of rates beyond direct carrier control, but I believe that shippers generally will agree with me that there remains a large area within which the carriers are free to initiate rates and in which competition between the carriers is as vital a force as ever. In addition, such competition is manifested in the attitudes of carriers in formal proceedings before the Commission and in proposals to induce the Commission to revise existing orders. The numerous subjects on any rate bureau's docket furnish evidence of the substantial remaining field of competition.

This competition I regard as of great value to the shipping interest I represent and to the public at large. I rely upon the fact that it is in the interest of the railroads that serve Kansas City to make it possible for grain to flow through Kansas City to the greatest possible extent. This interest must affect their judgment in initiating rates and in dealing with formal proceedings and leads them from time to time to seek changes in outstanding orders. The rate relationships that Kansas City enjoys are, in my opinion, protected to a very large extent by the interest of our railroads that causes them to keep a watchful and jealous eye upon competing carriers who would change them to our detriment.

Competition an Active Force

I am not unmindful that the same carriers in some situations find it more to their interest to protect some other center and that other carriers are guarding other markets, but this is a wholesome thing. The resultant of all these forces is the maintenance of all the commercial centers of the country in a rough equilibrium, adjusted by the competition bearing upon each. And I say that this competition, therefore, is real and active and very important. It better serves broadly to maintain a just relationship between markets than the academic determinations of the Interstate Commerce Commission.

Wiprud Is Wrong

If I am correct as to the existence and importance of a large field wherein competition can play, it is proper then to inquire into Mr. Wiprud's contention that by the rate-bureau plan the carriers are able to agree upon rates and to stifle the competition which should exist. I believe it is practically unanimous shipper opinion that he is not correct.

Conceivably, if railroad rate-making were committed to a small group of men none of whom was identified with a particular carrier competition in rates would be effectively destroyed, but this is not the case. Actually, each member carrier in the bureau has its own representative in every meeting and has the ultimate right to establish any rate it pleases regardless of the wishes of other carriers. This, it seems to me, is the final test of the existence of rail competition.

It is true that rate-making by bureaus consumes time, but this is as it should be so far as shippers are concerned. There are times when any shipper would like to get quick action on a rate proposal of benefit to him, but every shipper is outnumbered by his competitors, and he, therefore, wants to know what his competitors may propose and then have time enough to meet the threat by counter-proposal or otherwise. A cooling-off period is likewise beneficial to the proposing carrier. Time and discussion often serve to show that the aftermath of a rate proposal would leave the carrier in worse shape than it was before.

Shippers Like "Bureau Method"

Under the condition of unrestrained competition envisioned by Mr. Wiprud a carrier could announce a change in rates which would injure various localities, leading to prompt reprisal, often ending up with the same relationships but upon a lower level of rates. Business would be unnecessarily upset for a period, and the rate structure would be disrupted. Shippers do not want such a condition to prevail. They earnestly desire to have every proposed rate change duly advertised and opportunity given to oppose it or to propose counter measures.

Shippers are the ones affected by rate changes, and their interests should have consideration. Mr. Wiprud does not speak for them.

Mr. Wiprud contends that the level of transportation charges would be reduced if unrestrained competition were established. This undoubtedly would be true, as experience has well shown. In fact, under such conditions the rate level tends to undue reduction, below the level at which adequate and efficient transportation services can be assured. Rate readjustment is a continuing process, and as it is easier to reduce rates than to increase them there is a natural attrition of the rate level which requires restoration by the Commission from time to time by general increases.

The railroads as a group have never been able to earn a fair return upon the value of their property devoted to the transportation service. It seems idle, therefore, to talk of drastic, wide open competition as a means to secure a reasonable rate level. In any event the Commission stands ready to and does reduce the general rate level whenever in its judgment such action is appropriate.

I suggest to you that public discussion would benefit if we could keep before us the fact that railroad competition in rate-making does exist and that it is a vital force of great value to the shipping public. Regulation by the Interstate Commerce Commission controls and directs but by no means destroys such competition. If this be accepted as true, there remains, of course, the question whether the rate-bureau plan tends to restrain or stifle competition. Mr. Wi-

prud has not established that it does. On the other hand, it should be observed that shippers, who are the ones most intimately affected and who are most anxious to preserve competition, are satisfied with the general plan of the rate bureaus as the medium through which competition is exerted and would not willingly accept a condition of wide-open competition.

W. R. Scott
Sec., Kansas City Board of Trade

Treatment of Soldier Passengers

Aberdeen Proving Ground, Md.

To the Editor:

The letter on railway fare reduction written by Major Stevenson and published in your 25 August issue is one of the most interesting and provocative I have ever seen in your pages. It is unusual for you to publish a letter of this tenor, and I believe you deserve commendation for having done so. Every executive of every railroad that carries any appreciable number of revenue passengers any appreciable distance should study it and take it to heart.

It is unfortunate that your usual policy is so different. In the same issue you devote a lengthy editorial to recommending that civilians should get preference in railway travel from now on. Perhaps it is hard for some to remember that many who are now civilians have been or will be service men and women. Even more to the point, the vast majority of the millions who are now service men and women will eventually be civilians again. None of these people, if they see such sentiments in print (no matter how justified you may think they are) are likely to forget, when they encounter A. A. R. or other railway institutional advertising, that a railway spokesman in effect declares that with the war over, military personnel can be relegated to second place, and the more profitable civilian be given preferential treatment.

I should like to point out in this connection that one of the largest rail carriers in the East has consistently been giving the impression (not only to me but also to many others I've spoken to) that it has always favored full-rate civilian travel over furlough-rate service personnel's travel. It is a fact that it relegates all its old, infirm, antiquated, filthy coaches (plus those it can borrow from others) to runs patronized principally by military personnel, and almost invariably uses its better equipment for traffic (largely civilian) between large cities. This same road advertises heavily in slick-paper magazines, but it would seem to me that its discriminatory policy makes more of an impression. Now I don't know how many roads do this sort of thing (or appear to), but it doesn't take many.

In short, this merely illustrates once more the main point of Major Stevenson's letter: The railways must make their passenger service attractive in all the respects he listed, or they won't have any. And that means *all* passengers, not merely those who can afford to pay through the nose.

Pfc. Stanley Metalitz

[The reconversion of industry to peacetime production is a job requiring an infinite amount of negotiation and conferring, which necessitates much travel by business men; also, industries need to get salesmen back on the road. It is just as much to the advantage of service personnel as of anybody else that the travel necessary to get private business vigorously under way again be provided for without delay, and that such necessary and beneficial travel be encouraged and not discouraged. Our top business while the war was on was winning the war, and our top business now is to get peace-time production going so that there will be good jobs for all our service men when they are released from military duty. Continuing to make travel unnecessarily difficult or impossible for civilian business men would be a poor service to our man in uniform. In passing judgment on the quality of passenger equipment the railroads are able to provide, it is appropriate to note that the industry was expected to triple and quadruple its service with not one piece of additional equipment; and also to observe that the railroads voluntarily cut rates in half for service personnel on leave, a pricing policy which was not emulated by most other businesses.—*Editor*]

* * * *

Along the Rutland in the Green Mountains of Vermont

GENERAL NEWS

7 Months Net Income Was $394,000,000

Net railway operating income for the same period was $635,994,956

Class I railroads in the first seven months of this year had an estimated net income, after interest and rentals, of $394,000,000, as compared with $379,895,682 in the corresponding period of 1944, according to the Bureau of Railway Economics of the Association of American Railroads. The seven-months net railway operating income, before interest and rentals, was $635,994,956, compared with $652,170,786 in the same period last year.

July's estimated net income was $63,500,000, compared with $57,362,282 in July, 1944; while the net railway operating income for that month was $97,126,390 compared with $99,745,527 in July, 1944. In the 12 months ended with July, the rate of return averaged 3.91 per cent compared with 4.24 per cent for the 12 months ended July 31, 1944.

Gross Off, Expenses Up—Operating revenues for July totaled $796,128,617 compared with $809,038,158 in July, 1944, while operating expenses totaled $549,017,065 compared with $525,056,745. Gross in the seven months of 1945 totaled $5,495,999,125 compared with $5,445,109,779 in the same period of 1944, or an increase of 0.9 per cent. Operating expenses in the seven months amounted to $3,744,762,962 compared with $3,602,834,594 in the corresponding period of 1944, or an increase of 3.9 per cent.

Class I roads in the seven months paid $1,005,930,355 in taxes compared with $1,076,735,355 in the same period in 1944. For July alone, the tax bill amounted to $133,378,103, a decrease of $34,419,860 or 20.5 per cent under July, 1944.

Sixteen Class I roads failed to earn interest and rentals in the first seven months, of which ten were in the Eastern district, one in the Southern region, and five in the Western district.

Net Down in East and South—Class I roads in the Eastern district in the seven months had an estimated net income of $156,000,000 compared with $162,375,349 in the same period of 1944. For July alone, their estimated net income was $23,000,000 compared with $22,876,836 in July, 1944. Those same roads in the seven months had a net railway operating income of $263,781,633 compared with $282,481,507 in the same period of 1944. Their net railway operating income in July amounted to $38,892,875 compared with $44,920,657 in July, 1944.

Operating revenues in the Eastern district in the seven months totaled $2,330,529,300, a decrease of 2.6 per cent compared with the same period of 1944, while operating expenses totaled $1,706,468,193, an increase of 2.2 per cent.

Class I roads in the Southern region in the seven months had an estimated net income of $56,000,000 compared with $65,326,105 in the same period of 1944. For July alone, they had an estimated net income of $6,500,000 compared with $9,322,231 in July, 1944. Those same roads in the seven months had a net railway operating income of $91,454,559 compared with $101,478,954 in the same period of 1944. Their net railway operating income in July amounted to $11,003,591 compared with $13,037,688 in July, 1944.

Gross in the Southern region in the seven months totaled $774,700,087, a decrease of 0.8 per cent compared with the same period of 1944, while operating expenses totaled $504,657,460 or an increase of 4.9 per cent.

Better Showing in West—Class I roads in the Western district in the seven months had an estimated net income of $182,000,000 compared with $152,194,228 in the same period of 1944. For July alone they had an estimated net income of $34,000,000 compared with $25,163,215 in July, 1944. Those same roads in the seven months had a net railway operating income of $280,758,764 compared with $268,210,325 in the same period of 1944. Their net railway operating income in July amounted to $47,229,924 compared with $41,787,182 in July, 1944.

Operating revenues in the Western district in the seven months totaled $2,390,769,738, an increase of 5.2 per cent compared with the same period of 1944, while operating expenses totaled $1,533,637,309, an increase of 5.6 per cent.

	Month of July	
	1945	1944
Total operating revenues	$796,128,617	$809,038,158
Total operating expenses	549,017,065	525,056,745
Operating ratio—per cent	68.96	64.90
Taxes	133,378,103	167,797,963
Net railway operating income (Earnings before charges)	97,126,390	99,745,527
Net income, after charges (estimated)	63,500,000	57,362,282
	Seven Months Ended July 31, 1945	
Total operating revenues	5,495,999,125	5,445,109,779
Total operating expenses	3,744,762,962	3,602,834,594
Operating ratio—per cent	68.14	66.17
Taxes	1,005,930,355	1,076,735,355
Net railway operating income (Earnings before charges)	635,994,956	652,170,786
Net income, after charges (estimated)	394,000,000	379,895,682

Budd Designs Three New Sleeping Cars

32-Single-room "Budgette" cars and double-bed room type to be built

Designs for three new types of sleeping car facilities have recently been announced by the Edward G. Budd Manufacturing Company. The first of these is an all-room railway sleeping car with comfortable private, single-occupancy, day-and-night accommodations for 32 passengers. The others are two types of double bedroom and a master room. Construction of cars embodying these new facilities will get underway late this year in the Budd Company's large new railway car manufacturing plant at Philadelphia, Pa.

The single room car is to be known as the "Budgette" to typify its low cost day-and-night room service. It is intended to replace the open-section sleeper and provides private room accommodations in a standard 85-ft. car for more passengers than could be accommodated in a 12-section drawing room car. The double bedrooms embrace conveniences which include enclosed toilets and shower baths in moderately priced accommodations. The double bedroom, the Budgette, and the 22-room cabin car announced by the same builder earlier this summer are designed to provide a balanced consist for a train of all-room accommodations for single and double occupancy, the latter flexibly arranged so that they can be made to accommodate four passengers.

The Budgette car contains two types of rooms. One is entirely on the car aisle level; the other, slightly raised, is entered at the aisle level. Adjacent rooms on the same level are so grouped that two can be thrown together en suite by day or night. The rooms have full-size pre-made beds with foam-rubber mattresses which can be moved into place or stowed away with ease by the passenger, or by the porter if desired. Each room has its toilet, wash basin, medicine cabinet, carafe, mirrors, and all necessary facilities and appointments for the traveler's comfort and convenience. Besides a comfortable day seat or chair, they have unusually wide windows, ample luggage space, modern lighting, and individually controlled air conditioning and heating.

The double bedrooms are of two types. To satisfy passenger preferences as to position of beds, half the rooms are arranged transversely or across the car, the other half longitudinally or lengthwise with the car. All rooms are equipped with two full width 6-ft. 4-in. berths, pre-made and ready

for use when lowered into position. The berths have deep foam-rubber mattresses on special steel springs. An outstanding feature of these rooms is the fully enclosed toilet, lavatory and shower bath, providing privacy with apartment luxury and convenience.

The arrangement removes all obstructions from the outer walls, permits large panorama windows in each room and provides full leg room at the window seat. In each room is a clothes wardrobe and ample baggage space. Full-length mirrors are installed on the inside of entrance doors and half-length mirrors with folding shelves are found on each side of the partitions between rooms.

In one type double bedroom, there is a heavily upholstered sofa with adjustable arms which comfortably seats three persons. In the other room is one wide seat, suitable for two persons, and a movable chair, both equally comfortable with foam rubber innerspring construction.

The double bedrooms are readily converted into a master room by opening the partition. The master room is a luxurious apartment with four beds and two enclosed toilets and washrooms with shower baths. It has richly upholstered seats for six persons, two broad windows, two enclosed wardrobes, generous luggage racks and ample space for moving about in the daytime.

Each toilet and shower cabinet includes a lightweight folding washstand, soap dish, clean-towel shelf, utility shelf, a well-lighted mirror, medicine cabinet, 110-volt outlet, used razor-blade receptacle, clothes hooks, sanitary toilet, a special shower head, transparent shower curtain, and a self-draining floor.

The room proper also has exceptionally large luggage storage space, individually operated air-conditioning controls, electric fan, carefully placed lights for regular and special uses, removable table for day use, carpeted floors, and complete sound deadening.

Atlantic Shippers Board to Meet October 4

The sixty-seventh regular meeting of the Atlantic States Shippers Advisory Board will be held Thursday, October 4, at the Biltmore hotel, New York. These general sessions will be preceded on October 3 by meetings of the board's committees.

Reconditioning of Auto Cars Called Urgent

Nothing in the car supply situation is more urgent than that 40- and 50-foot automobile cars which are scheduled for re-equipping with loading devices or for reconditioning of devices already installed shall be reconditioned promptly to provide an adequate car supply for new automobile production, Chairman Warren C. Kendall of the Car Service Division has advised railroad transportation officers in an August 31 circular. The circular emphasized again the need for prompt return of such cars to their owners.

It called attention to action taken at an August 23 Chicago meeting of C. S. D.'s Advisory Committee of Transportation Officers, which recommended that, in lieu of carding these auto box cars in home route, they be billed in the same manner as empty tank cars, i.e., on non-revenue waybills to destination. The same action was also recommended for covered hoppers "in specific instances, in order to expedite the movement through connecting terminals and delivering road haul carriers." Transportation officers were urged to carry out these recommendations.

Federal Aid Swells Airline Profits

Domestic flying is far more lucrative than international, overseas air service—so W. L. Morrison, vice-president of Pan-American Airways said in an interview in the Atlanta Constitution.

The explanation lies in the fact that "at present we not only have to build and maintain our own airports [overseas] but keep up our own communications system and our own weather bureaus, which work in collaboration with those of the U. S. and other governments. On the other hand, practically every American city maintains its own airport, and, on domestic routes, we should be relieved of the expense of weather bureaus and could use established communication systems."

718th Awarded Meritorious Service Unit Plaque

The New York Central-sponsored 718th Railway Operating Battalion, commanded by Maj. Robert A. Wright, of Johnstown, Pa., has been awarded the Meritorious Service Unit Plaque for "excellent service during the period from December 18, 1944, to January 5, 1945."

The unit, which was activated at Fort Sam Houston, Tex., in December, 1943, and which received its technical training on the army's Claiborne & Polk railroad, has been on the Continent since August 14, 1944. The 718th ran the first supply train over the Rhine on the new Roosevelt Memorial bridge at Mainz, Germany, and claims the distinction also of being one of the first railway operating battalions in France. More recently the unit has been repairing railheads and track inside Germany.

Up to V-E Day, the battalion had operated over 8,330 trains, serviced 8,000 locomotives and 27,000 freight cars and repaired over 2,700 locomotives and 550 cars, together with complete servicing and repairing of 14 large railroad cranes.

Two Illinois Central Officers To Survey South America

Prepared to make an intensive survey of post-war trade opportunities between North and South America, two officers of the Illinois Central will leave New Orleans, La., on September 10, for a visit to the principal cities of South America. They are Philip A. Webb, Jr., general traffic agent at Chicago, and Jose M. Giralt, general agent at Havana, Cuba.

The two men will make the survey under the direction of Oliver J. Williford, Jr., manager of the foreign freight department, and will investigate trade conditions in the principal commercial centers in Brazil, Uruguay, Argentina, Chile, Bolivia, Peru, Ecuador, Columbia and Venezuela. The primary object of the trip will be to study and report on the possibilities of Latin America as a market for the sale of products of the United States and as a source of materials for use in this country.

Promotions in E. T. O.

Among seven recent promotions of enlisted men at Headquarters, First Military Railway Service, Paris, were two former railroaders. T/Sgt. Vernon Murray, of Brownville Junction, Me., and a former employee of the Canadian Pacific, was commissioned a second lieutenant. Pfc. Kenneth E. Franson, of Cheyenne, Wyo., and formerly with the Union Pacific, was promoted to corporal.

Former P. R. R. Passenger Agent Awarded Legion of Merit

For "meritorious service" as deputy assistant chief of transportation, between February 5 and May 10, 1945, Lt. Col. Edward J. Finnegan, of Chicago, for 17 years a passenger agent with the Pennsylvania, recently was awarded the Legion of Merit by Maj. Gen. Frank S. Ross, chief of transportation, at a ceremony in Paris.

The citation said that Colonel Finnegan had exhibited "foresight, diligence, and wide experience in the handling of troop movements," and had "supervised and maintained control over all phases of a highly secret movement on the continent, to the end that the important tactical movements were completed with signal ease and efficiency."

While working as chief of the passenger branch of the O. C. T., in London, in 1943, the colonel, then a lieutenant, was awarded the Bronze Star Medal.

Pullman-Standard to Enlarge Passenger Car Plant

The Pullman-Standard Car Manufacturing Company, on September 1, announced that it has purchased from the Navy Department the huge ship assembly building erected at its car works plant in Chicago for the construction of ships. The sale places at the disposal of the company a building which will form the nucleus for a new passenger car body shop.

The structure, which has an area of 171,000 sq. ft., will be expanded to more than twice its present size and, in addition, will be provided with a covered section of another 40,000 sq. ft. for steel storage. When completed, the new shop will replace the present steel shop, and will provide what is believed to be the largest railway passenger car plant in the world.

In discussing the company's carbuilding program, President C. A. Liddle said, "Purchase of this new building, necessary conversion, and additions to it to make it adaptable for carbuilding—combined with the other facilities in the more than 100 acres within which our Chicago plant is accommodated—will restore our production capacity of lightweight modern railway passenger cars to the six passenger cars per

day capacity which it has in the past accomplished over sustained periods.

"Altogether we propose to spend approximately five million dollars on the rehabilitation and improvement program. Much of it is already accomplished and our efforts are being intensified on the work that lies ahead so that the reconversion may be completed at the earliest possible moment and our ability to provide employment stepped up from month to month so that early in 1946 we will reach the peak."

At the same time, it was revealed that Pullman-Standard has begun work on the backlog of passenger car orders on hand and that deliveries are expected to start early in 1946.

"Metallurgy Symposium" to Be Held in Philadelphia

Sponsored jointly by Temple University and the Philadelphia chapter of the American Society of Metals, a "Metallurgy Symposium" is to be held at Temple University, Philadelphia, Pa., September 28. At the morning session from 9:30 a.m. to 12:00 noon, four addresses dealing with "New Developments in Quality Control" are scheduled, as follows: "As Applied to Steel Manufacture and Working of Steel," by Adolph O. Schaefer, executive metallurgical engineer, the Midvale Company; "As Applied to Welding and Welding Construction," Arthur J. Raymo, superintendent of welding shop, Baldwin Locomotive Works; "As Applied to Finished Parts Fabrication," G. W. Schorr, chief inspector, S. K. F. Industries; and "Statistical Quality Control Applied to Mass Production of Finished Parts," Charles Scott, general quality supervisor for all plants, S. K. F.

C. S. D. Modifies Embargo on Tank Cars to Mexico

Car Service Division Embargo 950 issued December 26, 1944, to prohibit movement of all tank cars to Mexico has been changed to apply with certain exceptions only to loaded and empty tank cars moving to or via the National of Mexico via any gateway. Railroad transportation officers have been so advised by Chairman Warren C. Kendall of the Car Service Division, who pointed out that the modification leaves no restrictions against the movement of tank cars via any other Mexican road.

M. R. S. Electrical Men Perform "Remarkable Job" in Germany

Electrical Transmission Company "D" of the 746th Railway Operating Battalion, the largest M. R. S. unit ever activated, recently has been on detached service with the 716th, and, according to the "Yankee Boomer" has "done some remarkable work in Germany." Assigned the job of operating the electrified line from Stuttgart to Augsburg, the 716th called in Capt. Floyd D. Gibson, commanding officer of Company "D", four officers and 188 enlisted men who had trained on the Pennsylvania at Harrisburg, and on the New York Central at New York City.

"D" company at once made surveys of the Stuttgart-Augsburg line, and repair work was begun on catenaries, sub-stations and transmission lines. German electrical maintenance men were also given jobs and were carefully supervised. "In less than six weeks," it is reported, electric locomotives were running on schedule from Munich to Stuttgart, with a Diesel shuttle system through Ulm. On this 130-mile stretch grades are reported "in excess of 2.5, but electric operation cut running time and hauled heavier loads," the report added.

Bronze Star for U. P. Man

A former Union Pacific railroader, Capt. William C. Timothy, of Green River, Wyo., was awarded the Bronze Star Medal by Col. Arthur E. Stoddard, director general of the First Military Railway Service, just prior to leaving for the United States for discharge from the Army.

His citation said, in part: "Captain Timothy, as a company commander in the 505th Military Police Battalion, which was acting as train security guards for the M. R. S., exhibited outstanding ability and leadership in the performance of his duties."

Freight Car Loading

Loadings of revenue freight for the week ended September 1 were not available when this issue went to press.

Loading of revenue freight for the week ended August 25 totaled 853,426 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, August 25 District	1945	1944	1943
Eastern	156,925	164,777	170,712
Allegheny	174,768	196,876	197,129
Pocahontas	57,300	58,406	57,713
Southern	118,354	121,718	121,010
Northwestern	140,554	147,009	148,379
Central Western	138,762	140,641	133,386
Southwestern	66,763	75,444	75,728
Total Western Districts	346,079	363,094	357,493
Total All Roads	853,426	904,871	904,057
Commodities			
Grain and grain products	66,768	49,327	54,288
Live Stock	16,457	15,919	16,389
Coal	180,264	178,414	178,817
Coke	11,725	13,816	14,873
Forest products	42,625	52,391	48,298
Ore	75,251	81,562	90,491
Merchandise l.c.l.	106,029	109,673	102,479
Miscellaneous	354,307	403,769	398,422
August 25	853,426	904,871	904,057
August 18	652,832	886,623	891,340
August 11	870,007	895,181	887,164
August 4	863,910	889,594	872,133
July 28	886,271	909,490	885,525
Cumulative Total, 34 Weeks	27,880,386	28,321,300	27,341,399

In Canada.—Carloadings for the week ended August 25 totaled 74,279 as compared with 60,670 for the previous week and 72,761 for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Totals in Canada:		
August 25, 1945	74,279	31,055
August 26, 1944	72,761	37,219
Cumulative Totals in Canada:		
August 25, 1945	2,327,284	1,231,479
August 26, 1944	2,361,446	1,309,304

763rd Holds Triple Ceremony on Second Anniversary

The 763rd Railway Shop Battalion on its second anniversary, July 28, at Louvain, Belgium, dedicated a locomotive to the memory of one of its men, W/O. James V. DeLuca, of Union City, N. J., witnessed the presentation of the Legion of Merit to Col. Otto D. Crill, Commander of Paris Provisional Railway Grand Division, heard from Brig. Gen. Carl R. Gray, Jr., director general of the M. R. S. and other high-ranking officers, played a little soft ball, and finally topped the day off with a dance in the enlisted men's "Club 63."

At the morning ceremonies in honor of Warrant Officer DeLuca, who lost his life at Antwerp in November, 1944, there were speeches also by Brig. Gen. Clarence L. Burpee, commanding general of the 2nd M. R. S., and Lt. Col. James Purcell, commanding officer of the 706th Railway Grand Division. General Gray made the presentation of the Legion of Merit Medal to Colonel Crill, who was cited for "outstanding service from August 27, 1944, to May 10, 1945."

When the 763rd was organized in July, 1943, its officer personnel were selected from the Delaware, Lackawanna & Western and the Lehigh Valley, receiving their basic training at Fort Slocum, N. Y. Ordered overseas, the battalion landed at Liverpool, England, May 14, 1944, and received what the "Yankee Boomer" describes as its "first big blow." The unit was split up and though technical training in the States had dealt principally with locomotive repair, the men were now called upon to construct prefabricated railway cars. But, the report goes, they "tackled the job with zeal, and soon established an enviable record."

Arriving in Louvain, where three companies are now working, the 763rd found "the yards and backshops had been hammered unmercifully by Allied bombers, and the extent of the wreckage was incredible." Water lines were repaired, lift jacks installed, welding and pipe shops set up, tracks and switches relaid, a new storehouse constructed, foundations repaired, drainage system restored and damaged machinery repaired.

Its record is said to attest to "the perfect cooperation of officers and men." Since last December the 763rd has repaired 109 2-8-0 locomotives, 20 0-6-0's and 13 Diesels, and processed 344 new locomotives of all types. At Louvain 6,508 locomotives have been dispatched, and at Antwerp, where Company "C" has been stationed, 7,470 cars have been repaired since February. The Antwerp unit has also aided the Belgians in the repair of 7,472 other cars.

"Did somebody say the war was over?" the Boomer asks.

Heavier '44 Loads Prevented Serious Shortage of Reefers

Without the heavier loads built up between 1942 and 1944 the railroads "would likely have been faced with serious refrigerator car shortages in 1944 instead of the sporadic and temporary ones which we were able to overcome," according to a statement which Warren C. Kendall, chairman of the Car Service Division, has sent to members of refrigerator car lines committees. Mr. Kendall's statement was accompanied by a tabulation showing loading and other data for 1942, 1943, and 1944 for the 26 items in the commodity statistics which are known to be predominantly refrigerator car commodities.

"You will observe," he said, "that during the year 1944 the tonnage per car of these commodities averaged 22.28, which is an increase of 2.96 tons per car over

the tonnage for the year 1942. The effect of this increase may be measured by the fact that if the tonnage per car of 1942 had existed in 1944, it would have required 2,575,322 carloads to have handled the tonnage originated, or 341,879 carloads more than were actually originated in 1944. It is doubtless safe to say that this increase in car utilization, comparing the two years, enabled the car lines and the carriers to do a satisfactory job in transporting the perishable commodities offered for shipment."

July Troop Movement Report

The July summary report of the Military Transportation section of the Association of American Railroads, the first such compilation which the War Department has permitted to be released for publication, discloses how much passenger-train equipment of various types was required for organized troop movements—that is, those involving 40 or more men—the number of men in various categories moved, and the passenger-miles and train-miles operated in this service. While July is described as a "typical" month so far as the over-all rail troop transportation picture is concerned, it was "unusual" in that the return of men from Europe and the outward movement to Pacific coast ports was going on at the same time.

The accompanying table summarizes the report:

REPORT OF TROOPS MOVED UNDER "MAIN NUMBERS" JULY, 1945

	Type of Move		
	Regular	Special	Total
Branch of Service:	Passengers	Passengers	Passengers
Army ..	122,264	738,756	861,020
Patients	13,956	35,445	49,401
Prisoners of War	4,618	27,115	31,733
Navy ...	26,607	40,795	67,402
Marine	3,592	14,352	17,944
Coast Guard	3,685	253	3,938
Miscellaneous	859	461	1,320
Total	175,581	857,177	1,032,758
Type of Equipment:	Cars	Cars	Cars
Sleeper	2,332	8,326	10,658
Coach	1,700	9,663	11,363
Baggage	275	1,196	1,471
Kitchen	238	1,889	2,127
Hospital	1,105	1,035	2,140
Freight	89	131	220
Total	5,739	22,240	27,979
Number of passengers	175,581	857,177	1,032,758
Number of movements	3,467	4,468	7,935
Number of train-miles	3,706,670	6,179,909	9,886,579
Passenger-miles	189,031,125	908,009,053	1,097,040,178

Calls for Expedited Return of Canadian Box Cars

"Notwithstanding several recent advices regarding the necessity for prompt return to owners of Canadian box cars, the interchange balance covering this type of freight equipment between the United States and Canadian roads shows a steadily increasing number of their cars on this side of the border," said an August 28 "mailgram" sent to all railroads by R. E. Clark, manager of the Car Service Division's Closed Car Section. Mr. Clark called for action to expedite the return of the Canadian cars, thus providing the Canadian roads with equipment to take care of "another bumper grain crop and their other loading requirements."

He asked all roads to renew instructions providing that Canadian box cars shall not be backhauled for prospective loading; and that they will be loaded only to the owner or to destinations which will advance them "substantially in the direction of owner in accordance with the provisions of the Car Service Rules." If such loadings are not available, the cars are to be returned empty to the owners—under routing supplied by the C. S. D. if the home routing is in a direction opposite to the owning road.

Figures given by Mr. Clark showed that the excess of Canadian box cars on U. S. roads increased from 1,235 on May 15 to 6,529 on August 1. "Needless to say the record is disappointing, and vigorous protests have been received from the Canadian roads," Mr. Clark added.

Express Agency Looks for Decline in Business

One of the first peace-time problems before the Railway Express Agency is the rehabilitation of its fleet of 16,000 trucks, which, according to L. O. Head, agency president, have been "worked to the limit."

Wartime business is "still running in great volume," he said, with enormous shipments to and from homes of servicemen. Mr. Head, however, said that "very shortly" he anticipated a considerable decline in the volume of business. This he expects to settle down to an increase of about 40 per cent over that handled in 1940.

P. R. R. Tip to Passengers

The Pennsylvania, on all of its dining car menus, is giving prominence to the following thought: "We'd Like to Serve You Better!" And, quite frankly, it tells the passenger that in the same 219 dining cars which it had before the war, when 14,000 persons a day were served, it now accommodates about 60,000. Thanking passengers for their patience, the P. R. R. promises more "just as soon as it is humanly possible."

July Truck Traffic

Motor carriers reporting to American Trucking Associations, Inc., transported in July 1,968,248 tons of freight, a decrease of 4.4 per cent below the 2,059,780 tons transported in June, but an increase of 1.5 per cent above July, 1944's total of 1,939,217 tons. The A. T. A. index, based on the 1938-1940 average monthly tonnage of the reporting carriers, was 175.91 for July as compared with June's 173.93.

The foregoing figures, according to the A. T. A. statement, are based on reports from 248 truckers in 40 states. Truckers in the Eastern district reported tonnage decreases of 5.3 per cent below June and 0.2 per cent below July, 1944. In the Southern region there was a decrease of 4.3 per cent below June but an increase of 4.5 per cent above July, 1944. Tonnage in the Western district was 2.7 per cent below June, but 3.8 per cent above July, 1944.

Gurley to Address T-M-K Board

The Trans-Missouri-Kansas Shippers Board will hold its regular meeting on September 19, in St. Louis, Mo., at the Jefferson Hotel. There will be meetings of the executive committee and of the railroad contact committee at 9:30 a.m., September 18, at the Jefferson. The formal meeting will open at 9:30 a.m. on September 19, and will be concluded with a luncheon at which F. G. Gurley, president of the Atchison, Topeka & Santa Fe, will be the guest speaker.

Heywood-Wakefield Publishes Hooton's Survey on Seating

The much-discussed study of body measurements conducted by Dr. Ernest A. Hooton, professor of anthropology at Harvard University, has been published in book form by the Heywood-Wakefield Company, sponsors of the survey. The book, "A Survey in Seating," reports the findings of the investigations and includes more than 50 tables of correlations prepared by the research staff. In addition to the report of Dr. Hooton's work, the book includes information on the results of an independent survey made by the company on body shapes.

The book is being made available to members of the railway industry without charge.

M. R. S. Promotions

Former Erie trainman, Mark Bowman, of Huntington, Ind., and Patrick J. Biggan, of San Antonio, Tex., a furloughed roundhouse foreman from the Missouri Pacific, recently were promoted from second to first lieutenants in the 750th Railway Operating Battalion, according to a recent issue of the "Yankee Boomer," M. R. S. newspaper.

Club Meetings

The Pacific Railway Club will hold a joint meeting with the American Society of Mechanical Engineers, September 27, 7:30 p.m., at the Engineers Club, San Francisco, Calif. "Turbine-Driven Locomotives" will be discussed by C. D. Allen, transportation engineer, Baldwin Locomotive Works, and D. R. Jenkins, Pacific coast steam engineer, Westinghouse Electric Corp.

The Car Foremen's Association of Chicago will next meet September 18, at 8 p. m., at the LaSalle Hotel, Chicago, at which time "The Private Car Line's Role in the Railroad Transportation Field" will be discussed by Dr. Francis E. Lockwood, lead inspector, National Aluminate Corporation.

"Future Responsibilities of Our Car Department" is the topic to be discussed by K. H. Carpenter, superintendent car department, Delaware, Lackawanna & Western, when the Car Department Association of St. Louis meets September 18, at 8 p. m., at Hotel DeSoto, in that city.

The Railway Club of Pittsburgh (Pa.) will next meet September 27, at 8 p. m., at the Fort Pitt Hotel. "The Power and Glory of Democracy" is the subject announced for A. A. Nicholson, assistant to vice-president, Texas Company. September 27 will also be "Ladies' Night" at the Pittsburgh club.

The Western Railway Club will hold a reception and dinner, from 6 to 8 p. m., October 15, in the grand ballroom, Hotel Sherman, Chicago. No special feature has as yet been announced.

With the Government Agencies

"Superseniority" Is Awarded a Veteran

Court holds higher seniority of civilians can't bar returnee from work

Judge Matthew Abruzzo, of the federal district court in Brooklyn, N. Y., in a case entitled *Fishgold v. Sullivan Drydock & Repair Corp.*, last week decided that a veteran of World War II who had returned to employment which he had left to join the armed services was entitled to work in preference to employees of greater seniority than his, but who had no record of service in the armed forces.

The case had to do with interpreting and applying Section B of the Selective Service and Training Act of 1940, as amended, which reads, in part, as follows: "If such position was in the employ of a private employer, such employer shall restore such person to such position or to a position of like seniority."

The court summarized the position of the plaintiff as follows: "He was a welder working for the defendant. I find that his employment was permanent and steady. He left his employment for induction into the armed service of the United States and had to leave his position for that purpose. He received a certificate in compliance with the statute that he had been discharged honorably. It is neither in dispute that he is qualified to perform the duties of the position of welder—he was a first-class welder—and it is not in dispute that he made his application for re-employment and that he actually was re-employed after making the request under the Selective Service Act."

The section of the law quoted above the court took "to mean that this plaintiff is entitled to come back to his work as a first-class welder and that he is entitled to come back to work in preference to anybody else who might be working on any of the days that he applied for work, except a veteran in his own category.

"The proof in this case is that there were 46 men and 5 snappers working on the first day, April 9, who were all non-veterans, and I hold that the defendant has violated the terms of the statute by not employing the plaintiff . . . unless the employer's circumstances had been changed so as to make it impossible or unreasonable to do so . . ."

I. C. C. Service Order

By Second Revised Service Order No. 104, effective September 2 through April 1, 1946, unless otherwise directed, the Interstate Commerce Commission has modified the territorial limits to which the order's provisions with respect to the mandatory substitution of type RS refrigerator cars in place of box cars were applicable, under the order effective August 1 and reported in *Railway Age* of August 4, page 221. The latest version of the order requires substitution, under prescribed conditions, when suitable westbound carload freight, originating, in general, east of the Rocky mountains, is destined to points in California, Arizona, Nevada, Utah, and Union Pacific stations in Idaho, or when such freight originating in Utah is destined to points in California or Nevada.

Passenger Train "Freeze" Off; 14-Day Reservations Allowed

The Office of Defense Transportation this week removed additional restrictions on railway passenger train operations by revoking its General Order 24, effective September 16, and modifying the requirements of its General Order No. 52, effective September 9.

Under No. 24, which is entirely revoked, railroads were prohibited, after October 4, 1942, except under O. D. T. permit, from running any special passenger train, from running extra sections of regularly scheduled trains unless such sections had been running at least 20 per cent of the time during the 90 days preceding issuance of the order, and from adding additional trains to passenger train schedules in effect September 26, 1942. The order also prohibited operation of any train which included a car assigned to the exclusive use of any individual or group, except as authorized by the O. D. T.

The modification of General Order No. 52 allows railroads to make reservations for space on passenger trains, including sleeping car accommodations, 14 days in advance of departure date. Since the order became effective, at midnight June 29, railroads have been prohibited from selling or allocating space on any passenger train more than 120 hours in advance of departure.

Lennon Made Waterways Head

Appointment of Joseph A. Lennon, of St. Louis, Mo., heretofore special assistant to the attorney general of Missouri, as president of the Inland Waterways Corporation, operator of the federal barge lines, effective September 4, has been announced by the Department of Commerce. He succeeds in this post John S. Powell, who has served as acting president since the resignation of Chester Thompson in August, 1944.

South Trimble, Jr., former solicitor of the Department of Commerce, continues in the position of chairman of the advisory board of the corporation, to which he was appointed in May. The report published at that time that he had been named president was inaccurate.

Railroads Would Bar U. S. A. Water Service

Ask I. C. C. to reject plea for temporary authority on domestic routes

The Association of American Railroads has asked the Interstate Commerce Commission to deny the War Shipping Administration's pending application for temporary authority to engage in domestic coastwise and intercoastal operations as a common or contract carrier by water until December 31. As noted in the *Railway Age* of September 1, page 382, W. S. A. said that the authority it seeks was necessary "pending the restoration of normal services in these trades by private operators whose ships are still on 'war jobs.'"

The A. A. R. petition was in the form of a September 1 letter which President J. J. Pelley sent to Chairman John T. Rogers of the I. C. C. Its request for denial of the W. S. A. application goes on to ask, "in the alternative," that in any event the application be considered and disposed of by the commission "only after public hearing." The W. S. A. is asking that the authority be granted "without hearings or other proceedings."

Authority Limited—Arguing its case for denial, the Pelley letter asserts that the commission is without authority under section 311 of the Interstate Commerce Act to grant the application. The pertinent provisions of that section are interpreted by the A. A. R. as conferring upon the commission power to grant temporary authority for water carrier service "only where there is no carrier service capable of meeting the transportation needs of the port, without regard to whether such service be rendered by rail, water, or highway."

It is further contended that the section "clearly contemplates authority in respect of specified points and territories," whereas W. S. A.'s application "is in the nature of a blanket request for authority to operate 'between all ports and points along the Atlantic, Pacific, and Gulf of Mexico coasts.' "

Continuing, the Pelley letter relies on the executive order creating W. S. A. to support an assertion that the Shipping Administration "is not authorized to operate in coastwise, intercoastal, and inland waterway transportation." Under the order, as amended, says the A. A. R., there are "expressly exempted" from control of W. S. A. "vessels engaged in coastwise, intercoastal, and inland transportation under the control of the director of the Office of Defense Transportation." In the order

creating O. D. T. and giving it authority over "domestic transportation," the latter is defined as including "inland waterway, coastwise and intercoastal shipping."

In contending that the W. S. A. application fails to state a case for authority under section 311, the A. A. R. suggests that the "whole basis" of the application "is the allegation of a request of June 6, 1945," from the director of O. D. T. for resumption of coastwise water transportation "for the purpose of relieving wartime rail congestion," coupled with the assertion that the cessation of hostilities "has resulted in similar water transportation requirements in the coastwise and intercoastal service generally." The letter asks that the commission "require production of the alleged request of June 6, 1945"; and it challenges "as palpably unfounded any assertion that cessation of hostilities has resulted in transportation conditions at ports similar to those existing while the war was on."

Rail Capacity Ample—Noting that freight traffic has been dropping off "very materially and progressively and will be much lighter at least until the reconversion period has terminated," Mr. Pelley stated that "instead of a prospect of an insufficiency of transportation, there is now ample capacity to move promptly by rail all property offered." He added that there "never has been a lack of sufficient capacity to properly serve by rail" the coastwise traffic on the Atlantic and on the Gulf and between the Atlantic and the Gulf.

This brought the A. A. R. president to his final contention that a grant of the authority to W. S. A. "would subject the rail carriers to unfair competition without warrant in any public necessity." He called attention to the "many hundreds of millions of dollars" spent by the railroads to increase the industry's capacity "to handle the maximum load hitherto anticipated as consequent upon this country's all-out effort in the conduct of the war." The proposed W. S. A. operations, Mr. Pelley added, "would create an artificial competitive situation to the unfair disadvantage of the rail carriers."

He went on to say that the railroads "have been advised, and believe it to be true," that those water carriers which now hold certificates for the routes involved would become agents of W. S. A. under the authority sought. Such carriers "would operate under their previously existing—and wholly noncompensatory—rates, and would be saved from loss at public expense under the terms of contemplated contracts to be entered into with them."

"Subsidized" Competition—"The rail carriers," Mr. Pelley said in closing, "would thus be confronted with unnecessary, unfair, and subsidized competition in respect of traffic which they are able, ready and willing to transport to the satisfaction of every reasonable public need. The subsidy to water carriers which would thus be granted is without any authority in law, there being no act of Congress authorizing such subsidy."

As noted in last week's issue, the W. S. A. announcement of its plans said that it was exploring the "possibility" of re-establishing coastwise and intercoastal services under private operation, adding, however, that there may be some delay "because of the complicated nature of these operations and the necessity of insuring their resumption on a sound basis."

Mr. Pelley's letter to I. C. C. Chairman Rogers was followed on September 4 by another from T. L. Preston, assistant general counsel of the A. A. R. Reproducing a telegram wherein T. M. Cunningham, general counsel of the Central of Georgia, had asked that that road be excepted from the A. A. R. intervention, Mr. Preston's letter asked Mr. Rogers to consider the Pelley letter amended accordingly.

O. D. T. Resignations

J. M. Hood, president of the American Short Line Railroad Association, who had been serving since March, 1942, as southern director of the Office of Defense Transportation's Railway Transport Department, resigned from the latter position, effective September 1. J. P. Kiernan, assistant southern director, has been appointed acting southern director, and the southern regional offices in Washington have been moved from 1212 Tower building to 1121 Interstate Commerce Commission building.

Another September 1 resignation from the Railway Transport Department's staff was that of Neil S. Laidlaw, associate western director—ports. Mr. Laidlaw has been succeeded by D. J. McGarity, heretofore O. D. T. district port manager at Portland, Ore.

Amendment to I. C. C. Rules of Practice

The Interstate Commerce Commission has amended its rules of practice to bring Rule 21 (a) relating to computation of prescribed periods of time into line with the commission's new five-day week work schedule. The amended rule reads as follows:

Rule 21. Time.—(a) Computation.—In computing any period of time prescribed or allowed by these rules, the day of the act, event, or default after which the designated period of time begins to run is not to be included. The last day of the period so computed is to be included, unless it is Saturday, Sunday or a legal holiday in the District of Columbia, in which event the period runs until the end of the next day which is neither a Saturday, Sunday nor a holiday. A half holiday shall not be considered as a holiday.

O. D. T. to Discontinue Liquid Transport Dept.

The Liquid Transport department of the Office of Defense Transportation, which has directed and coordinated the wartime flow of petroleum products, chemicals and other bulk liquids, will be discontinued, effective September 20. The O. D. T. announcement of September 5 said that the discontinuance will be complete, lifting wartime restrictions on all shippers of liquid products in railway tank cars, highway tank trucks and by pipe lines.

R. F. C. Cuts Pipeline Rates

Rates for the transportation of petroleum products through the war-emergency pipelines, "Big Inch" and "Little Big Inch," have been reduced by the Reconstruction Finance Corporation to a level equivalent to current War Shipping Administration tanker rates from the Gulf coast to the eastern seaboard area. The reduction, which became effective September 1, follows R. F. C.'s recent action terminating the subsidy program under which it reimbursed petroleum shippers for transportation costs in excess of those which would have been incurred if normal tanker services had been available.

Government Releases B. & G.

Among other plants and industries which have been listed for return to their owners after a period of government operation during the war is the Bingham & Garfield Railway, Economic Stabilization Director Davis has announced. The War Department took possession of the road January 25 "because of a complete interruption of its operation by a strike that resulted from the employees' refusal to work under the conditions prescribed by a panel appointed pursuant to the provisions of the Railway Labor Act," his statement pointed out.

As noted in *Railway Age* of February 3, page 276, the specific issue on which the Brotherhood of Locomotive Firemen & Enginemen ordered a strike was the board's finding that there was no need for the addition of a "fireman" on the road's trolley-electric locomotives, which have been operated by engineers only.

Ickes Says Coal Shortage Is Still a Possibility

Detailed estimates of bituminous coal requirements for the current fuel year, ending next March 31, show that industrial fuel needs were reduced "very little" by Japan's surrender, according to Solid Fuels Administrator Ickes, who said: "It is unfortunate, indeed, that misinterpretation of General Brehon B. Somervell's recent statement has caused the public to believe, erroneously, that there will be plenty of coal of all kinds because of the cancellation of Army contracts."

Soft coal requirements as estimated by government agencies before and after V-J Day show a net decrease, for the fuel year, of 15,000,000 tons, Mr. Ickes' statement revealed, the present estimated total being 585,000,000 tons. While substantial decreases are expected in some consumers' needs, such as steel mills, general manufacturing and railroads, these will be partially offset, it was indicated, by increases in the requirements of other groups, such as exports and the retail trade. For railroads, the present estimated requirement of 127,000,000 tons compares with a pre-V-J Day figure of 139,000,000 tons.

"The reduction in railroad fuel needs anticipated by the Office of Defense Transportation is not at all in proportion to the drop in the industrial index or the general level of employment," said Mr. Ickes. "With the demobilization of troops and the post-war shifting of population, passenger traffic (requiring one-fifth of the railroads' coal) will be undiminished. A 15 per cent reduction in freight traffic during the last four months of 1945 will reflect a 12 per cent cut in coal requirements. However, movements of basic industrial commodities will remain relatively high during the remainder of the coal year, as industries shift materials and otherwise get under way for reconversion. The railroads burn 20 per cent of the total soft coal supply."

Western States Say Class Rate Changes Affect Them Too

Petitions have been filed with the Interstate Commerce Commission by the Mountain-Pacific States Conference of Public Service Commissions (representing in its membership the regulatory agencies of Arizona, California, Colorado, Montana, Idaho, Nevada, New Mexico, Utah, Oregon, Washington and Wyoming) and by several of the states in that territory individually, asking for permission to intervene in the Nos. 283000 and 28310 proceedings, dealing with the uniform class rate and uniform classification investigations.

The commission's report and order in the class rate case requiring interim and, after the adoption of a uniform nation-wide freight classification, permanent adjustments in class rates in different territories, in order to bring about a greater degree of uniformity therein, did not require changes in class rates in the Mountain-Pacific territory, and its investigations did not go extensively into conditions in that area. The states west of the Rocky mountains, however, now seek to become parties to the proceedings because, they assert, class rates to and from points in that territory, as well as border points, will be so changed when the permanent adjustments ordered by the commission are put into effect that relationships of long standing will be disrupted, particularly because of changes made in compliance with the requirements of section 4 of the Interstate Commerce Act.

The Mountain-Pacific states offered no objection to the interim rate changes which the commission has directed the carriers to make in the territory east of the Rocky mountains, but confined their protests to the permanent changes to be made after adoption of the uniform classification. Before such changes become effective, but after the classification has been developed, they urged, they should be allowed an opportunity to present evidence as to the effects of such changes on that territory under the economic and competitive conditions then prevailing, and to the extent necessary for that purpose they asked the commission to reconsider and modify its recent findings with respect to the permanent adjustment of class rates.

Emergency Board Reports

The White House has recently made public reports of the National Railway Labor Panel emergency boards which investigated disputes between the Delaware, Lackawanna & Western and its marine-shop mechanical employees represented by the Utility Workers Organizing Committee, C. I. O., and between the Canadian Pacific and certain of its employees represented by the train-service brotherhoods and other "standard" railway labor organizations.

The D. L. & W. board reported that it had brought about a settlement of all issues except one which related to final steps of the grievance procedure to be followed by the parties. On that matter the union claimed that under the present set-up of the National Railroad Adjustment Board the C. I. O. was not represented and had no voice in the decisions reached by that agency. The Board expressed the opinion that "the Railway Labor Act provides adequate machinery for the settlement of any future disputes that might arise under the agreement" and recommended that no procedure for the settlement of disputes be written into the agreement other than the provisions now in the agreement dealing with progressing grievance cases on the property.

The C. P. R. board recommended denial of the request of the employees for "standard" rates of pay received by like groups of employees on United States railroads operating in New England, stating it could not certify that the wage demands of the unions were consistent with the government's stabilization policy.

The board recommended, however, that the parties rewrite their existing contracts so as to provide separate agreements for employees in the United States, instead of the present arrangement whereby both Canadian and United States employees are covered by the same contract. In rewriting the contracts, the board suggested that the new agreements establish rates of pay on a basis of equality with the rates now in force for comparable positions on the Canadian National's New England lines. The board further pointed out that as a result of issuance, after conclusion of the hearings, of Executive Order 9599 on August 18, the parties might agree among themselves as regards wage increases without further approval from stabilization authorities provided no question of price increases are involved in the adjustments.

Definition of Lighterage

The Bureau of Traffic and the Bureau of Water Carriers and Freight Forwarders of the Interstate Commerce Commission are considering the issuance of a tentative and provisional administrative ruling which would interpret the term "lighterage" as used in section 303(f)(2) of Part III of the Interstate Commerce Act. That section exempts from the act's water carrier regulatory provisions, and regulates under Part I, marine services, including lighterage, performed for railroads or express companies.

The tentative interpretation, which has been submitted to water carriers for criticism or suggestions, reads as follows:

General Rule

"Lighterage" as used in section 303(f)(2) of the act is interpreted to mean transportation by lighter, ordinarily performed within the limits of a particular harbor or contiguous harbor, which is directly connected with the loading or unloading of vessels and is incidental to line-haul transportation.

Exception

"Lighterage" does not include the movement of freight between separate ports or terminal areas except where special conditions warrant an exception to this rule, which exception must be specifically approved. The transportation of certain commodities from or to different points within a reasonable radius of a point at which a vessel is loaded or unloaded in order to avoid uneconomical shifting of such vessel would probably warrant such an exception from the general rule.

All Contracts for Mexican Rail Workers End by Nov. 20

As indicated in *Railway Age* last week, the War Manpower Commission has announced that no contract for the employment of citizens of Mexico on United States railroads, resulting from the W. M. C. recruitment program, will be in force after November 20, as all recruiting was suspended August 18 and contract renewals have been restricted to 90-day periods since May 13. The return to Mexico of about 67,000 men recruited in that country for railroad work, particularly in engine houses and track maintenance gangs, is being effected, according to W. M. C. Chairman McNutt, "as rapidly as their contracts expire."

The decision to terminate the recruitment program followed a meeting at which representatives of railroad managements and employees were present, it was explained, and was tied to a program under which the W. M. C. and Railroad Retirement Board are expected to expand their efforts to place United States citizens in vacant railroad jobs, particularly with a view to expediting repairs to equipment.

Says Block System Would Have Averted Head-on Collision

An Interstate Commerce Commission recommendation that the Atlanta, Birmingham & Coast install an "adequate block system" on its main line was incorporated in its report of an investigation, under the supervision of Commissioner Patterson, of a head-on collision at 3:55 a.m. July 4 between two passenger trains at a point on that line 1.2 miles north of Talbotton, Ga., where operations were by timetable and train orders, there being no block system in use. An application by the Atlantic Coast Line to acquire the A. B. & C.'s properties by merger is pending before the commission.

The immediate cause of the accident, the investigation disclosed, was an operator's error in copying a train order, resulting in a lap of authority of the trains concerned, First No. 4 northbound and No. 11, the "Dixie Flagler," southbound. No. 11 had been given rights over several northbound trains, including First No. 4, and a meet between those two trains had been established at Beall, a blind siding 4.9 miles north of Talbotton and 91 miles south of Atlanta.

This meet was established by Train order No. 11, copies of which were received by the crews of both trains. Another order, No. 6, which was delivered to First No. 4 but not to No. 11, provided that train No. 11 should run 50 min. late from Manchester to Mauk, a station 16 miles south of Talbotton, but order No. 6 had been annulled by order No. 12, which provided that train No. 11 should run 1 hour late between the same stations. This last order was delivered to First No. 4, which proceeded expecting to meet No. 11 at Beall. But the copies of Train order No. 12 which were delivered to Train No. 11 erroneously read "Order No. 11 is annulled," leading the crew of that train to understand that it had authority to proceed to Mauk without meeting First No. 4 at Beall.

Because of curvature, embankments and vegetation, the view ahead from the engines of the trains approaching the scene of the accident was limited to a "few hundred feet," and the collision occurred, at a point 3.7 miles south of Beall, before effective action could be taken to stop either train. The authorized speed in that territory was 50 m.p.h., and the estimated speeds

at the time of the accident were 30 m.p.h. for First No. 4 and 45 m.p.h. for No. 11. There were no fatalities, but 57 passengers, 1 mail clerk and 7 employees were injured. Seven-car No. 11 was driven northward about 62 ft. by the force of the impact with 5-car First No. 4. Both engines were badly damaged, and all the cars in each train were considerably damaged, but none of the cars was derailed.

In reviewing the circumstances, the report stated that, "if an adequate block system had been in use, these opposing trains would not have been permitted to occupy the same block simultaneously, and this accident could have been prevented." It could not be determined just how the operator at Manchester, who erroneously copied order No. 12 for delivery to train No. 11, made the error, as he "left the office soon after the accident occurred and he was not available for questioning during the investigation." It was testified, however, that he repeated the order to the dispatcher correctly, and that the conductor of No. 11 read the erroneous order to the operator when it was delivered.

I. C. C. Investigates Practices of Property Brokers

Division 5 of the Interstate Commerce Commission has instituted on its own motion an investigation into the practices of property brokers, designated as Ex Parte No. MC-39, with a view to prescribing regulations to be observed by them, and preliminary to a hearing at a time and place to be set later has made public a tentative set of rules, none of which the commission has yet adopted, as to which interested parties are asked to direct their evidence as the investigation proceeds.

The notice of the investigation indicates that the contemplated rules will apply to brokers as defined in section 203(a)(18) of the Interstate Commerce Act, except those dealing exclusively in transportation of passengers and their baggage. Among matters covered by the preliminary draft of rules are the following: Definitions, keeping of records, charges, carrier's authority, misrepresentation, billing, rebating, duties and obligations of brokers, transfer of licenses, changes in control, and suspension or revocation of licenses.

Head-End Collisions Caused by Lapses in Train Orders

Head-end collisions between two passenger trains on the Missouri Pacific near Plumerville, Ark., on July 1, and between a freight train and a passenger train on the St. Louis-San Francisco near Custer City, Okla., on July 3 were caused in turn by failure to obey a meet order and failure to deliver a meet order, according to reports on Interstate Commerce Commission investigations conducted under the supervision of Commissioner Patterson. The Plumerville collision on the M. P. resulted in the death of one train-service employee, and the injury of 132 passengers, a railway mail clerk, 12 dining-car employees, a train porter, three employees not on duty, and four train-service employees on duty; while the Custer City accident on the Frisco resulted in the death of one passenger and the injury of 21 others along with one railway mail clerk and seven train-service employees.

Both accidents occurred in single-track territory where trains are operated by timetable and train orders with no block system in use. The report on the Plumerville collision reveals, however, that an automatic block signal system is being installed in that territory, and M. P. officers estimated that the installation will be completed and placed in service about December 15. The other report asserted that the Custer City collision could have been prevented "if an adequate block system had been in use."

The two first-class passenger trains involved in July 1's Plumerville accident were an eight-car northbound train, No. 116, and a seven-car southbound train, No. 117. The collision occurred at 12:22 p.m. on the main track about 1.48 miles south of the north switch of a Plumerville siding which No. 117 should have entered in accordance with the train order in effect at the time.

Though the action came too late to avert the collision, No. 117 was being operated backwards at a speed of 15 m.p.h. in an effort to clear No. 116 when it was struck by the latter which was moving at a speed of 45 m.p.h., the speed limit in the vicinity being 55 m.p.h. The train-service employee killed was the engineer of No. 116. That train's engine was derailed and stopped on its right side east of the main track and parallel to it, 200 feet north of the point of the collision, and was "badly damaged." The front truck of the first car was derailed. The engine of No. 117 was derailed and stopped upright in line with the track, 320 feet north of the point of collision, and was "badly damaged." The front truck of the first car of No. 117 was derailed and the front end of the car was crushed inward about 6 feet.

The grade at the accident scene is "practically level," but there is curvature along approaches from the north and south. Because of this curvature and vegetation on each side of the track, the report said, the enginemen of No. 116 were unable to see No. 117 in time to take necessary action to stop their train. The weather was cloudy,

The order which called for a meet of the trains at Plumerville was Train Order No. 234, made complete at 11:10 a.m. and delivered about 11:30 a.m. to the crew of southbound No. 117 at Russellville, 30.97 miles north of Plumerville, and about 12:05 p.m. to the crew of northbound No. 116 at Conway, 13.66 miles south of Plumerville. Meanwhile, however, Train Order No. 241, which changed the meeting point to Menifee, 5.41 miles south of Plumerville, was sent to Conway for delivery to No. 116; and to Morrilton, 5.73 miles north of Plumerville, for delivery to No. 117. This order, made complete at 11:57 a.m., was annulled before it had been delivered to the crew of either train, the annuller, Train Order No. 242, having been addressed to the operators at Conway and Morrilton and made complete at 12:01 p.m.

Under the rules, these Conway and Morrilton operators were required to destroy all copies of Train Order No. 241 except a file copy in each office, and each operator was required to write the notation "Annulled by Order No. 242" on his office copy. The operator at Conway did this, but the operator at Morrilton made the notation "Annulled Order No. 242," leaving out the "by." While southbound No. 117 had received the effective meet order (No. 234) at Russellville, as noted above, this Morrilton operator had to deliver another order to that train—Train Order No. 226, which required No. 117 to wait at Morrilton until 12:10 p.m.

In doing so he folded the clearance forms separately with the train orders inside and erroneously placed one of the copies of the annulled No. 241 inside one of the clearance forms. The engineer gave the fireman the clearance form which contained only order No. 226, retaining for himself the clearance form which contained Nos. 226 and 241. In checking with each other, the report says, they "discovered the discrepancy, and the fireman asked the engineer to confer with the operator"; but the engineer "informed the fireman that the notation 'Annulled Order No. 242' was of no significance, and that this order superseded Order No. 234 and changed the meeting place to Menifee."

After observing the wait-at-Morrilton order (No. 226), No. 117 left that point at 12:10 p.m. with its conductor and rear flagman understanding rightly that "in accordance with the provisions of Order No. 234, their train was required to enter the siding at Plumerville at the north switch to meet No. 116." The flagman said that when the train was about two miles north of Plumerville he sounded the meeting-point signal, but heard no response from the engine whistle—although he felt the brakes being applied and thought the engineer was preparing to stop in the vicinity of the north siding switch. When the rear car passed that switch, the flagman gave the engineer a stop signal but got no response; so the conductor opened the emergency valve, the train having passed the siding's south switch by that time. The engineer said that he did not hear any signals, but the train porter, who was on the engine, and the fireman said they heard them and warned the engineer.

The porter started out to protect No. 117's front end, but he had got only a short distance when No. 116 passed him before he could flag it to stop. "If immediate action to stop No. 117 had been taken by the train crew when the engineer failed to sound the engine-whistle signal in response to the meeting-point signal sounded on the communicating system the accident could have been averted," the report said.

The trains involved in July 3's Custer City, Okla., accident on the Frisco were a southbound first-class passenger train, No. 609, consisting of a gas-electric motor car and one coach, and a northbound third class freight train, No. 662, consisting of a locomotive, two cars, and a caboose. The collision occurred at 2:55 p.m. at a point 3.02 miles south of the station at Custer City, which had been established as the meeting point by Train Order No. 69, never delivered to the crew of No. 609.

The latter was moving at an estimated speed of 40 m.p.h. when it collided with No. 662 moving at an estimated speed of 35 m.p.h. That was its speed limit, while the maximum authorized for the passenger train was 50 m.p.h. The front end of No. 662's engine was "badly damaged," while the front and rear ends of the motor car

and the front end of the coach of No. 609 were crushed inward a distance of about 6 feet. The report notes that because of embankments and vegetation on the inside of curves in the vicinity of the accident, the members of the crew on each train were unable to see the other train more than a few hundred feet. The grade is one per cent ascending northward, and the weather was clear.

Train Order No. 69 establishing Custer City as the meeting point was delivered to the crew of northbound 662 at Clinton, 12.2 miles south of Custer City, from which the train departed at 2:35 p.m., 5 hrs. 10 min. late. The order was also sent to the operator at Custer City for delivery to southbound No. 609. Thus it became subject to an operating rule which required "special precautions" when a train order is delivered to a superior train at the meeting or waiting point—something which the rule says is not to be done if it can be avoided.

Other rules governing operation in the territory provide that at each train-order office the train-order signal must be displayed to indicate stop when there is an operator on duty, except when changes to indicate proceed to allow a train to pass when there are no train orders for delivery to any train in that direction. The Custer City operator said that when the dispatcher instructed him to copy Train Order No. 69 the train-order signal was in stop position.

"After he had repeated the order to the dispatcher, he placed it on his desk," the report continued. "He was engaged in selling tickets, checking baggage, and answering the city telephone until he heard the engine whistle sounded by the engineer of No. 609 as the train was approaching the station. Then, forgetting that he held order No. 69 for delivery to No. 609, he changed the indication of the train-order signal from stop to proceed. During the time that No. 609 was at Custer City, the operator was engaged in handling baggage and express, and he was not aware of his failure to deliver the order until he returned to his office soon after No. 609 had departed."

With respect to addressing the order to the superior train at the meeting point, the dispatcher stated that it was not possible for him to arrange a meeting point until he received information that No. 662 was ready to depart from Clinton; and when he received such information, No. 609 had already left Thomas, the last open office north of Custer City. "No extra precautions were taken in the handling of the order . . . at Custer City," the commission said, adding that the investigation had disclosed that "on previous occasions a meet order had been sent for delivery to a train at the meeting point without taking extra precautions."

Air Travel Priorities Near End

A very substantial reduction in the use of domestic airline priorities by the War Department will be effected September 15, it has been announced, and the priorities system for air travel in this country will be completely abolished October 15. Whereas the number of travelers on priorities has been in the neighborhood of 100,000 per month, it is expected that 15,000 or less will be authorized during the final month the system is in operation.

During the war the department acted as a central agency for handling air priorities for all government and civilian travelers eligible for preferred treatment. Four classes of priorities were in effect—the highest being reserved for high government officials, the next for congressmen and urgent military and government travel, the next for less important military and war-connected business travel, and the lowest category for miscellaneous cases which were considered worthy of some preference. In the month beginning September 15 only one priority category will be observed, and applications for special treatment are expected to be rigidly "screened."

No Ban on State Conventions

Further liberalization of the ban on conventions, group meetings and trade shows has been announced by the Office of Defense Transportation's War Committee on Conventions, effective September 3. Under the new provisions (1) State conventions and group meetings may now be held without obtaining committee approval, provided attendance is confined to persons residing in or engaged in business within the state in which the event is held, plus not more than 25 persons—such as speakers and honored guests—from outside the state; (2) trade shows may also be held, after clearance with the committee, if attendance, exhibits, entries and exhibitors are drawn from within the state where the show is held. (Applications must still be filed for all trade shows.)

All restrictions on the holding of livestock and other animal shows have been removed, but national and regional conventions and group meetings still require committee approval if the attendance exceeds 150 persons from outside the state where the event is held.

Representation of Employees

The Brotherhood of Railroad Trainmen has won two recent elections on the Kansas City Southern and has thus been certified by the National Mediation Board as collective-bargaining representative of that road's yardmasters and yardmen (foremen, helpers, and switchtenders). The latter group was formerly represented by the Switchmen's Union of North America while the yardmasters were not represented by any organization when the B. of R. T. request for an election was filed.

On the Georgia, the Brotherhood of Locomotive Firemen and Enginemen has extended its coverage to include hostlers as well as firemen and hostler helpers. The hostlers were formerly represented by the Brotherhood of Locomotive Engineers. Meanwhile, the National Council of Railway Patrolmen's Unions, American Federation of Labor, has been chosen by Texas & Pacific patrolmen (assistant special agents, special officers, and assistant special officers).

O. D. T. Hails Record Grain Movement by Railroads

Railroads carried more grain and grain products in the first 34 weeks of this year than during any similar period on record, according to an August 31 statement from the Office of Defense Transportation. The total for the 34-week period ended August 25 was 1,748,348 cars, which exceeded 1943's previous war-time high of 1,691,640 cars and 1929's pre-war high of 1,605,640 cars.

Materials and Prices

The following is a digest of orders and notices that have been issued by the War Production Board and the Office of Price Administration since August 29, and which are of interest to railways:

Lead—Lead is still scarce, and many pre-war users will not be able to obtain a sufficient supply in the immediate future, despite the end of the war. Inasmuch as Order M-38 controls the use of lead, whether primary, secondary, or scrap, it is evident, W. P. B. said, that this control is necessary and relied upon to provide lead, even scrap, for permitted uses.

Order M-38, which restricts the delivery and controls the use of lead and lead products, has now been amended to limit the antimonial lead that may be used for storage batteries to nine per cent antimony content, except where specified for contracts for the Army or Navy, the United States Maritime Commission, or the War Shipping Administration in which an alloy with a higher content of antimony is mandatory.

Rope—The use of jute rope as a substitute for manila, sisal and henequen rope, the fibers of which remain in short supply, must be continued, the W. P. B. reported recently. Navy and War Shipping Administration requirements for rope for the fourth quarter of 1945 exceed the anticipated rope production from domestic mills. While Army requirements since the victory over Japan have been substantially reduced, the requirements for manila and sisal rope by the claimant agencies still remains extremely high, the board said.

Pointing to a continuing world shortage of manila, sisal and henequen fiber because of the heavy rope demands for United States consumption and for cordage required in the liberated countries, W. P. B. said that small shipments of Philippine abaca might ease the situation in this country. Sisal production in the Dutch East Indies is still uncertain, and no information is available as to when supplies from this source can be made available for U. S. mills.

Prices

Aluminum and Magnesium—Suspension of price control on mercury, primary aluminum ingot and pig aluminum, magnesium scrap, primary and secondary magnesium and most aluminum castings, magnesium castings and die castings announced by the O. P. A. in Supplementary Order No. 129, effective August 31.

The action is in line with the policy approved by William H. Davis, director of economic stabilization, under which price control may be suspended upon commodities and services when supply comes into reasonable balance with demand.

O. P. A. also announced additional suspension or exemption actions taken under another section of an O. E. S. directive that authorizes suspensions or exemptions when the item does not enter significantly into the cost of living or the cost of business, when control involves administrative difficulties disproportionate to the effectiveness of control or the contribution to stabilization and when the action will not cause substantial diversion of materials, facilities or manpower from the production of other commodities.

Cement—An increase of 10 cents per barrel in manufacturers' ceiling prices for all types of Portland, except white cement, produced in Ohio, West Virginia, Michigan and some parts of Pennsylvania, Virginia and Kentucky is provided by Amendment No. 11 to MPR-224, effective

September 5, and may be passed on at all levels of distribution.

Miscellaneous Products—The O. P. A. has announced suspension of price control on the following: Industrial clockwork systems; industrial and laboratory furnaces and ovens (except space heating, warm air furnaces, stoves); portable heating, melting, burning and thawing equipment for industrial and transportation uses, excluding fire pots and blow torches; standard industrial and special purpose gauges including plug, ring, snap, height, length and location gauges, but not testing machines; numbering and marking machines for use on metal, except office machines; pipe wrapping and coating machinery; architectural and engineering reproduction machinery such as blue printing, brown printing and white printing, but not photographic process machinery; and steam engines, except railroad locomotives.

Redwood—Establishment of manufacturers' dollar-and-cent ceiling prices for all sales of redwood tank, pipe and silo lumber, regardless of where sold is provided by Amendment No. 9 to MPR-253, effective September 4.

Levels were arrived at by applying the basic differentials between prices of tank stock and lumber in the Eastern area and the prices of the comparable items in the Western area. These new Western prices are, in effect, the same as those previously approved under special pricing, O. P. A. said.

O. P. A. also announced that manufacturers of redwood lumber are now permitted to charge $7 each for bulkheads for open top railway cars whenever these bulkheads are required by the A. A. R. Previous to 1944, bulkheads were not insisted on, O. P. A. said, and a fixed bulkhead ceiling charge was unnecessary.

The 30-mile limitation on "direct-mill retail sales" in the Western area also is provided for in the new amendment. Previously, sales outside the 30-mile radius were not in the category of "direct-mill retail sales" and the manufacturer could not apply the charge of $2.50 per 1,000 feet board measure allowed on direct-mill retail sales to sales beyond that radius.

Western Pine—Adjustments in manufacturers' ceiling prices of western pine and associated species of lumber to permit greater production of one-inch boards and of dry dressed common boards are provided by Amendment No. 2 to RMPR-94, effective September 11.

An alarming scarcity of one-inch boards caused by a reluctance on the part of manufacturers to dry and remanufacture the more plentiful thicker stock brought about the action, O. P. A. explained. The over-all realization of mills producing western pine and associated species of lumber will not be affected, as the price increases will be balanced by the decreases, the agency added.

Lower prices for consumers will result from today's action, O. P. A. also said, because the increase permitted the manufacturers will encourage them to dry and remanufacture the lumber, thus keeping it out of the hands of those not equipped to do the work as cheaply as it can be done by manufacturers.

Major changes include:

1. Manufacturers of western pine and associated species are authorized to add $1 per M f. b. m. to establish f. o. b. mill prices for all one-inch dry dressed common boards.

2. Deductions on dry rough, surfaced green, and rough green graded common lumber are increased $1, $2.50 and $3.50, respectively, for most species. These are deductions from the ceiling prices for dry dressed common boards.

3. Dollar-and-cent ceiling prices are provided for ¾ and 11/16-in. boards. Previously, ¾-in. boards were priced by special application and 11/16-in. boards were priced by formula.

4. The ceiling prices of 7/4-common boards are lowered so that 7/4-resawn boards will net less than the table prices for ¾-in. boards on grade.

5. The ceilings of 8/4-Ponderosa pine boards and of 5/4, 6/4 and 8/-Idaho white pine, No. 1 common, are reduced by varying amounts.

6. All common grades 10/4 and thicker except No. 1, 2 and 3 Idaho white and sugar pine, as well as 8/4 larch and fir, are now priced by special application.

The ceilings on the remaining dry dressed boards 5/4, 6/4 and 8/4 in. and thicker, remain, in general, the same, and prices on inter-mill sales continue at the old levels.

Equipment and Supplies

PASSENGER CARS

"Vista Dome" Cars Ordered for Twin Zephyrs

The Chicago, Burlington & Quincy announced on September 5 that it had ordered two complete new sets of equipment for the Chicago-Twin Cities Zephyrs, which will be the first trains to embody the "Vista Dome" type of observation rooms in each passenger carrying car. This order is only a portion of the orders for 6½ million dollars worth of new passenger train equipment announced on September 6 by the Burlington.

Other items in this road's passenger equipment program are: A 12-car "Empire Builder," the Burlington's share of the five trains required to streamline the Chicago-Pacific Northwest service operated in connection with the Great Northern; and five stainless steel baggage and mail cars to complete the streamlining of the Burlington's daytime Zephyr service between Chicago and Omaha, Neb., and Lincoln.

The new Twin Zephyrs, which will be built by the Edward G. Budd Manufacturing Company, will be of stainless steel and each will consist of a combination baggage and buffet car, four chair cars, a diner, and a parlor lounge car. Each of the chair cars and the parlor-lounge car will contain "Vista Domes"—raised glass-enclosed observation rooms from which passengers can enjoy an unobstructed view of the Burlington's route along the upper Mississippi river. Based on designs developed by General Motors Corporation, the "Vista Dome" was introduced in an experimental Burlington car on July 23, which has since met with the approval of thousands of passengers in its 15,000 miles of operation. Details of the experimental car appeared in the *Railway Age* of August 11, and of General Motors' proposed designs in the issue of August 4.

The 12-car "Empire Builder" will be built by Pullman-Standard Car Manufacturing Company, and will be identical with four trains being constructed by that company for the Great Northern. It will consist of a baggage-mail car, four chair cars, a grill car, one dining car, four sleeping cars, and an observation-lounge car. Although final schedules have not yet been determined it is expected to make the run in approximately 45 hours, about 13 hours less than at present.

LOCOMOTIVES

The Chicago, Burlington & Quincy has ordered 10 4000-hp. Diesel-electric passenger locomotives from Electro-Motive Division, General Motors Corporation, La Grange, Ill. These locomotives will be placed in the Burlington's pool of Diesel-electric power and when received will enable the assignment of this type of locomotive to all of the road's principal passenger trains.

SIGNALING

The Texas & Pacific has ordered materials from the General Railway Signal Company to install unit-wire C. T. C. between Reisor, La., and Lucas. This installation will cover a territory of approximately eight miles, to be controlled from Cut Off Junction, the longest individual control will be six miles. There will be seven indicated track circuits, six switch locks, two spring switches, and seven controlled signals. Among the materials ordered are Type D high signals, Type ME dwarf signals, Model 9A switch locks, Model 7 switch circuit controllers and Type K relays.

The Chicago, Rock Island & Pacific has placed an order with the Union Switch & Signal Co. covering the signal material for the installation of a coded track automatic block signal system in the single-track territory between El Reno, Okla., and Fort Worth, Tex., involving 208 miles of road. The order includes Style H-2 searchlight signals, Style U-5 switch circuit controllers, relays, rectifiers, housings and accessories. The installation work will be handled by railway construction forces.

FREIGHT CARS

The Chesapeake & Ohio has ordered 1,490 50-ton hopper coal cars from the American Car & Foundry Co. and 500 50-ton hopper coal cars and 200 70-ton covered hopper cars from the General American Transportation Corporation. The American Car & Foundry Co. also will build for the railroad ten experimental lightweight 50-ton hopper coal cars.

The Texas & Pacific has ordered 25 70-ton steel covered hopper cars from the American Car & Foundry Co.

Orders for 34,797 Freight Cars on Books at August 1

As of August 1 there was a backlog of 34,797 freight cars on order and undelivered for domestic service. Of these, 32,682 were ordered by 51 railroads, 1,815 by private car lines and industrial companies and 300 by government agencies. Railroad orders comprised 20,340 box, 5,332 hopper, 5,738 gondola, 850 flat, 89 dump, 50 pulpwood, three refrigerator and 280 caboose cars. The total orders were allocated 25,113 to contract car builders and 9,684 to company shops. The 34,797 cars on order are listed in detail in the accompanying table.

Freight Cars on Order for Domestic Service August 1, 1945

Purchaser	Number	Type	Capacity	Builder
Alton	40	Caboose		American Car & Fdy.
	3	Box	50-tons	Mount Vernon
Atchison, Topeka & Santa Fe	2	Refrigerator	40-tons	Consolidated Steel
	1	Spec. Refr.	40-tons	Consolidated Steel
	250	Cov. Hopper	70-tons	General American
	500	Box	50-tons	Mount Vernon
	8	Box-Auto	50-tons	Pullman-Standard
	1,000	Box	50-tons	Pullman-Standard

News Department continued on second left-hand page

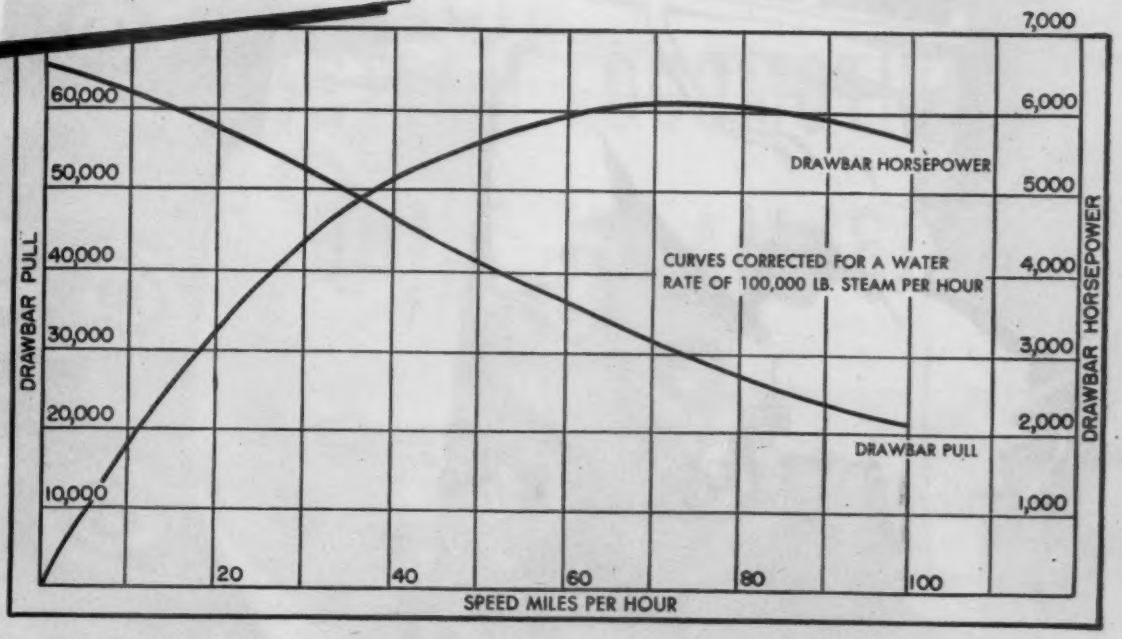
DRAWBAR HORSEPOWER

The Franklin System of Steam Distribution

applied to

The Pennsylvania Railroad's

T-1 Locomotives



"The T-1 locomotive developed a maximum of 6100 drawbar horsepower, which is 46 percent more than that of any other locomotive ever tested on the (Altoona) plant. * * *

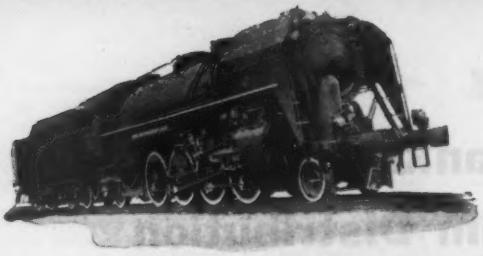
"The T-1 locomotive was designed to haul a trailing load of 880 tons on level tangent track at a speed of 100 m.p.h. This requires a horsepower at the rear of the tender of 2980. If wind and engine and tender truck resistances are deducted from the drawbar pull shown in the graph, it is found that the T-1 locomotive develops 4100 horsepower at the rear of the tender at 100 m.p.h., which is about 38% greater than necessary to meet the requirements."

Quotation from paper by Ralph P. Johnson, Chief Engineer of the Baldwin Locomotive Works, read before the New York Railroad Club, May 17, 1945.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL



TO SPEED THE

RECOVERY OF FRANCE

LIMA DELIVERS THE FIRST OF 700 STEAM LOCOMOTIVES BEING BUILT IN AMERICA

In the war wreckage of the French railways five out of six of her locomotives were destroyed, and to restore normal life in France her transportation system must be rehabilitated as quickly as possible.

America has been called upon to meet the desperate need for motive power and seven hundred 2-8-2 steam locomotives have been ordered here, of which 180 are being built by Lima.

Realizing the vital importance to France of these locomotives, Lima is meeting the emergency by building its

share in record time. The first of any of the seven hundred to be completed was turned over to representatives of the French Supply Mission on July 31, after being christened the "Liberation" at a ceremony at the Lima Works.

LIMA LOCOMOTIVE WORKS INCORPORATED, LIMA, OHIO

Freight Cars on Order for Domestic Service August 1, 1945 (Continued)

Purchaser	Number	Type	Capacity	Builder
Atlantic Coast Line	2	Air Dump	40-tons	Austin-Western
Baltimore & Ohio	487	Box	50-tons	General American
	110	Box-Auto	50-tons	Greenville
	500	Box	50-tons	Greenville
Bangor & Aroostook	50	Hopper	70-tons	Bethlehem
	100	Box	40-tons	Magor
	50	Pulpwood	50-tons	Magor
Chesapeake & Ohio	490	Box	50-tons	Pullman-Standard
Chicago & Eastern Illinois	500	Hopper	50-tons	Pullman-Standard
	5	Box	50-tons	Pullman-Standard
Chicago & North Western	250	Ballast	70-tons	American Car & Fdy.
	695	Gondola	70-tons	Bethlehem
	500	Hopper	70-tons	General American
	500	Hopper	70-tons	Pullman-Standard
(For Chicago, St. Paul, Mineapolis & Omaha)	400	Box	50-tons	American Car & Fdy.
	100	Hopper	50-tons	Mount Vernon
Chicago, Burlington & Quincy	24	Dump	50-tons	Austin-Western
	37	Cov. Hopper	70-tons	Company Shops
	255	Box	50-tons	Company Shops
Chicago Great Western	150	Box	50-tons	Pullman-Standard
	25	Caboose		Pullman-Standard
Chicago, Milwaukee, St. Paul & Pacific	35	Cov. Hopper	70-tons	Company Shops
	624	Box	50-tons	Company Shops
	500	Flat	50-tons	Company Shops
	1,200	Gondola	50-tons	Company Shops
	50	Caboose		Company Shops
Chicago, Rock Island & Pacific	3	Box	50-tons	Mount Vernon
	500	Box	50-tons	Pullman-Standard
Clinchfield	2,000	Hopper	50-tons	American Car & Fdy.
	50	Flat		American Car & Fdy.
	300	Box	50-tons	Mount Vernon
Colorado & Wyoming	50	Ballast	70-tons	American Car & Fdy.
	50	Gondola	70-tons	Mount Vernon
Denver & Rio Grande Western	500	Box	50-tons	Pressed Steel
Detroit, Toledo & Ironton	200	Cov. Hopper	70-tons	Greenville
Donora Southern	50	Hopper	70-tons	American Car & Fdy.
Erie	1,200	Box	50-tons	American Car & Fdy.
	600	Gondola	70-tons	Bethlehem
	100	Cov. Hopper	70-tons	Greenville
	100	Caboose		Company Shops
Grand Trunk Western	500	Box	40-tons	Pressed Steel
Great Northern	250	Flat	70-tons	American Car & Fdy.
	500	Gondola	50-tons	Pressed Steel
	524	Box	50-tons	Company Shops
Illinois Terminal	50	Flat	50-tons	American Car & Fdy.
	4	Caboose		Company Shops
Kansas City Southern	50	Cov. Hopper	70-tons	Pullman-Standard
	150	Hopper	70-tons	Pullman-Standard
Lehigh Valley	34	Caboose		Company Shops
Louisville & Nashville	400	Box	50-tons	American Car & Fdy.
	200	Auto	50-tons	American Car & Fdy.
Manufacturers	1	Caboose		Mount Vernon
Minneapolis & St. Louis	500	Box	50-tons	General American
	3	Box	50-tons	Mount Vernon
	6	Caboose		Company Shops
Missouri-Illinois	50	Box	50-tons	American Car & Fdy.
Missouri-Kansas-Texas	300	Box	50-tons	Company Shops
Missouri Pacific	19	Alum. Hopper	70-tons	American Car & Fdy.
	1,000	Box	50-tons	American Car & Fdy.
	50	Cov. Hopper	70-tons	American Car & Fdy.
	400	Box	50-tons	Pullman-Standard
Monongahela Connecting	48	Gondola	70-tons	Pittsburgh Bridge & Iron
Montour	1	Hopper	70-tons	American Car & Fdy.
New York Central	1,213	Box	55-tons	American Car & Fdy.
	2,100	Box	55-tons	Company Shops
(For Pittsburgh & Lake Erie)	1,089	Gondola	70-tons	Company Shops
New York, Chicago & St. Louis	500	Box	50-tons	Ralston
New York, New Haven & Hartford	500	Box	50-tons	Pullman-Standard
Norfolk & Western	20	Air Dump	50-tons	Austin-Western
	250	Box	50-tons	Company Shops
Northern Pacific	500	Box	50-tons	American Car & Fdy.
	30	Air Dump	50-tons	Austin-Western
	500	Box	50-tons	Pullman-Standard
Pennsylvania	500	Box	50-tons	Company Shops
	300	Cov. Hopper	70-tons	Company Shops
St. Louis Southwestern	25	Cov. Hopper	70-tons	American Car & Fdy.
	250	Box	50-tons	Mount Vernon
	100	Gondola	50-tons	Company Shops
Seaboard Air Line	13	Air Dump	50-tons	Magor
	365	Box	50-tons	Pullman-Standard
Southern Pacific	500	Box	50-tons	Mount Vernon
Southern	125	Gon. Bodies	50-tons	Pullman-Standard
Spokane, Portland & Seattle	25	Ballast	70-tons	American Car & Fdy.
	500	Box	50-tons	Pullman-Standard
Texas & Pacific	50	Cov. Hopper	70-tons	American Car & Fdy.
Toledo, Peoria & Western	50	Box	50-tons	Pullman-Standard
Union Pacific	1,000	Box	50-tons	Mount Vernon
	500	Auto	50-tons	Pullman-Standard
Union	500	Gon. Bodies	50-tons	Company Shops
Wabash	731	Gon. Bodies	50-tons	Company Shops
	20	Caboose		Company Shops
Western Maryland	40	Cov. Hopper	70-tons	American Car & Fdy.
	100	Box	50-tons	General American
Western Pacific	100	Gondola	70-tons	Mount Vernon
Private Car Lines & Industrial Cos.	1,008	Refrigerator	40-tons	Various
	349	Tank		Various
	167	Hopper		Various
	93	Gondola		Various
	30	Box		Various
	35	Flat		Various
	73	Air Dump		Various
	8	Dump		Various
	52	Other		Various
Government Agencies	246	Box	50-tons	Pressed Steel
	25	Gondola	70-tons	Pressed Steel
	6	Flat		Pressed Steel
	6	Air Dump	70-tons	Pressed Steel
	17	Tank	50-tons	American Car & Fdy.
Total—Car Builders	25,113			
Total—Company Shops	9,684			
Grand Total	34,797			

Supply Trade

W. F. Rockwell May Bid for Pullman Company

In an interview with the Associated Press in New York on August 31, reported in the New York Journal of Commerce, W. F. Rockwell stated that four companies with which he is associated may seek to purchase the sleeping car operations of Pullman, Inc. These companies are the Timken-Detroit Axle Company and the Hupp Motor Car Corporation, both of Detroit, Mich., the Standard Steel Spring Company of Coraopolis, Pa., and the Pittsburgh Equitable Meter Company of Pittsburgh, Pa. Mr. Rockwell said his group was not associated with any other combination and that it had ample funds for the operation.

American Car & Foundry Has $90,000,000 Orders

At the annual meeting of the American Car & Foundry Co. at Flemington, N. J., on August 30, Charles J. Hardy, chairman of the board, told the stockholders that the company had on its books at August 24 over $90,000,000 in orders, after giving effect to all terminations and cancellations then effective. Much the greater part of this backlog represented firm orders for the company's regular products, that is, railroad equipment, and the balance by what may be included as war work which had not been, and probably will not be, terminated.

Mr. Hardy said that since the appearance of the company's annual financial statement for the fiscal year ended April 30, cancellations of orders have wiped off its books many millions of dollars of business. "These cancellations have come with an abruptness not wholly expected and are largely if not entirely due to our governmental policy with respect to 'lend-lease'—with which policy, by the way, we have no quarrel. A very large part of such cancellations is with respect to railroad equipment—cars needed by our allies and for use in the liberated countries of Europe and Asia, and for the making of which definite contracts had been placed with our company. Such cars are still needed—and while they will not be supplied under 'lend-lease' by our government, yet I am measurably confident that ways and means will be found whereby the contracts cancelled will be, in part at least, reinstated."

Budd to Spend $16,000,000 to Reconvert and Expand

A two-year reconversion and expansion program costing $16,000,000 is already under way at the Edward G. Budd Manufacturing Company's plants in Philadelphia, Pa. and in Detroit, Mich., according to Edward G. Budd, president. Of this total, $4,000,000 will be spent before the company's reconversion program is completed. The balance will provide plant expansion necessary to handle an annual sales volume in excess of $125,000,000. Funds for these programs were made available by a Reconstruction Finance Corporation loan announced last spring.

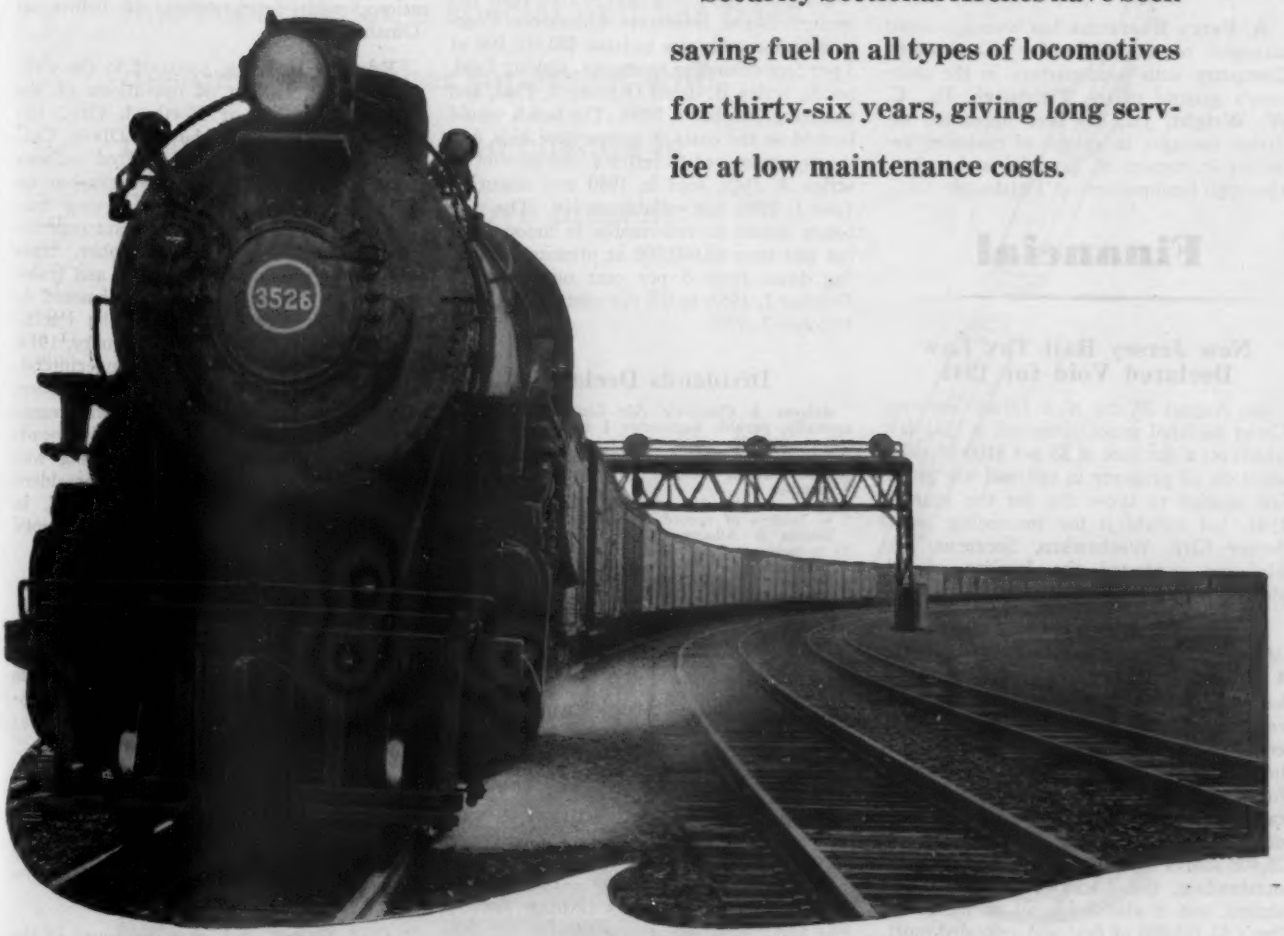
At the Hunting Park plant in Philadelphia, Pa., expanded automobile production

News Department continued on next left-hand page

Motive Power *must be* kept efficient

• Today's tremendous traffic movements require motive power of highest efficiency at all times. To develop that efficiency each ton of fuel must yield every possible pound of steam. That's why it is vitally important always to maintain a complete arch in the locomotive firebox.

Security Sectional Arches have been saving fuel on all types of locomotives for thirty-six years, giving long service at low maintenance costs.



HARBISON-WALKER REFRACTORIES CO.
Refractories Specialists

AMERICAN ARCH CO. INC.
60 East 42nd Street, New York 17, N. Y.
Locomotive Combustion Specialists

equal to approximately three times the pre-war annual average is expected to hit its peak about June, 1946. This will necessitate expenditure of approximately $6,000,000 for new presses, welding equipment, conveyors, and new plants. The company's work on highway truck trailer body assemblies, built for Fruehauf, is being moved to the Red Lion plant at an estimated cost of $250,000. Reconversion of the Detroit plant for additional automobile body production will cost in excess of $3,000,000. Equipment of Budd's numerous machine shops will cost more than $500,000. A system of centralized stores and buildings to house it in Philadelphia will cost almost an equal amount. Renovations, enlargements and repairs to existing buildings at Hunting Park will absorb another $500,000.

Reconverting and equipping Budd's Red Lion plant, recently leased for the manufacturing of from two to four stainless steel railroad passenger cars per day, will cost $1,750,000. This work is now being rushed and is expected to be completed early next year. Construction of railroad cars has already been started without waiting for completion of this program and the first cars are expected to come off the lines this fall.

A. Perry Everstine has been appointed manager of the **Schaefer Equipment Company** with headquarters in the company's general offices, Pittsburgh, Pa. **C. W. Wright, Jr.,** has been appointed assistant manager in charge of customer relations in respect to inquiries and orders, also with headquarters at Pittsburgh.

Financial

New Jersey Rail Tax Law Declared Void for 1941

On August 29, the New Jersey Supreme Court declared unconstitutional a 1941 law which set a flat rate of $3 per $100 of valuation on all property in railroad use as the law applied to taxes due for the year of 1941, but upheld it for succeeding years. Jersey City, Weehawken, Secaucus, and Hoboken contested the legality of the statute.

DELAWARE, LACKAWANNA & WESTERN.—*Merger of Oswego & Syracuse.*—Division 4 of the Interstate Commerce Commission has approved arrangements whereby this company may acquire by merger the properties of the Oswego & Syracuse, which it has operated under an 1869 lease providing for a rental payment "free of government tax," equivalent to a 9 per cent annual dividend on Oswego stock. Of the Oswego's 26,408 shares of $50 par value capital stock outstanding, the Lackawanna owns 4,214 shares, and it also holds all of the leased line's $1,193,000 of first and refunded mortgage 5 per cent gold bonds. As in five other cases where the Lackawanna has undertaken to acquire properties heretofore operated under lease, litigation has been pending with respect to federal income tax liability under the terms of the rental agreements, and the merger is intended to effect a settlement of this issue as well as to simplify the system capital structure. The 34.98-mile line of the Oswego & Syracuse connects the cities named and includes important terminal facilities. To consummate the merger, the Lackawanna, with the division's approval, is to issue $1,109,700 of Oswego & Syracuse division 50-year mortgage bonds, on which fixed interest is to be paid at the rate of 4 per cent, an additional 2 per cent being contingent on earnings and settlement of the tax litigation. Oswego stockholders are to receive $50 face value of the new bonds and $18.50 in cash for each share of stock held, plus certain additional cash payments on account of accrued interest.

GREAT NORTHERN.—*Promissory Notes.*—Division 4 of the Interstate Commerce Commission has authorized this company to issue $3,825,217 of promissory notes in evidence, but not in payment, of the unpaid portion of the cost of certain cars and locomotives purchased under conditional sale agreements. (Previous item in *Railway Age* of August 11, page 271.) The notes have been sold to the Central Hanover Bank & Trust Company on a 1.63 per cent annual interest basis.

UNION PACIFIC.—*Bonds.*—This road has applied to the Interstate Commerce Commission for authority to issue $81,602,000 of 3 per cent refunding mortgage, sinking fund, bonds, series B, dated October 1, 1945, and maturing October 1, 1990. The bonds would be sold on the basis of competitive bids, and the proceeds used to retire a like amount of series A 3½s, sold in 1940 and maturing June 1, 1980, but callable at 106. The new bonds would be redeemable in amounts of not less than $5,000,000 at premiums ranging down from 5 per cent on or before October 1, 1953, to 0.5 per cent on and after October 1, 1988.

Dividends Declared

Atlanta & Charlotte Air Line.—$4.50, semi-annually, payable September 1 to holders of record August 20.

Bangor & Aroostook. — 5% preferred, $1.25, accum., payable October 1 to holders of record September 6.

Beech Creek.—50¢, quarterly, payable October 1 to holders of record September 10.

Boston & Albany.—$2.00, payable September 29 to holders of record August 31.

Delaware & Hudson.—$1.00, quarterly, payable September 20 to holders of record August 28.

Pittsburgh, Ft. Wayne & Chicago.—Common, $1.75, quarterly, payable October 1; 7% preferred, $1.75, quarterly, payable October 2; both to holders of record September 10.

Average Prices Stocks and Bonds

	Sept. 4	Last week	Last year
Average price of 20 representative railway stocks..	54.15	56.68	40.81
Average price of 20 representative railway bonds..	96.51	96.02	88.82

AIR EXPRESS SHIPMENTS.—The Air Express division of Railway Express Agency has announced that shipments for the first six months of this year have exceeded any previous record for a similar period. A total of 153,078 shipments were handled in international air express, a gain of 37.4 per cent over those handled in the first six months of 1944. In domestic air express all previous records were topped, with a rise of 28.6 per cent over the 1944 comparable period.

Railway Officers

EXECUTIVE

Brigadier General Paul W. Johnston, who was serving as assistant vice-president of the Erie at Cleveland, Ohio, when he was furloughed for military service in March, 1942, has been elected vice-president in charge of personnel matters of the Erie at Cleveland. For the past three and one-half years General Johnston has served in the Far Eastern theater in charge of procurement, lend-lease and reciprocal lend-lease on the staff of General Douglas MacArthur.

E. J. Connors, who has been on leave of absence from his position as vice-president of operations of the Union Pacific, to serve as assistant director of the Office of Defense Transportation and who recently has been on special assignment for President Truman, has been appointed vice-president of the Union Pacific. **Perry J. Lynch,** general superintendent of transportation, has been promoted to vice-president of operations, with headquarters as before at Omaha, Neb.

Edward L. King, assistant to the vice-president in charge of operations of the Southern Pacific, at Portland, Ore., has retired. Mr. King was born at Dixon, Cal., on August 16, 1875, and entered railway service in 1894, as a clerk-telegrapher on the Southern Pacific. After serving successively as a clerk to the assistant superintendent, station agent, telegrapher, train dispatcher, chief train dispatcher and trainmaster of this road, he was promoted to superintendent of telegraph of the Pacific system at San Francisco in February, 1914. In October, 1920, he was made superintendent of the Salt Lake division at Ogden, Utah, and in the following year was transferred to the Portland division with headquarters at Portland, Ore. Mr. King was promoted to assistant to the vice-president in charge of operations, at Portland, in July, 1941, remaining in that position until his recent retirement.

FINANCIAL, LEGAL AND ACCOUNTING

A. Beatty Rosevear, K. C., senior solicitor, Western region, of the Canadian National at Winnipeg, Man., has been appointed general solicitor of the system at Montreal, Que.

E. P. Wiseman has been named assistant to general auditor of the Western Maryland at Baltimore, Md., succeeding **E. T. Steffy,** whose appointment as general auditor at Baltimore was announced in the *Railway Age* of September 1.

C. J. Green, auditor of revenues of the McCloud River at McCloud, Cal., has been promoted to general auditor, with the same headquarters, succeeding **George W. Beeman,** who has resigned. The position of auditor of revenues has been abolished.

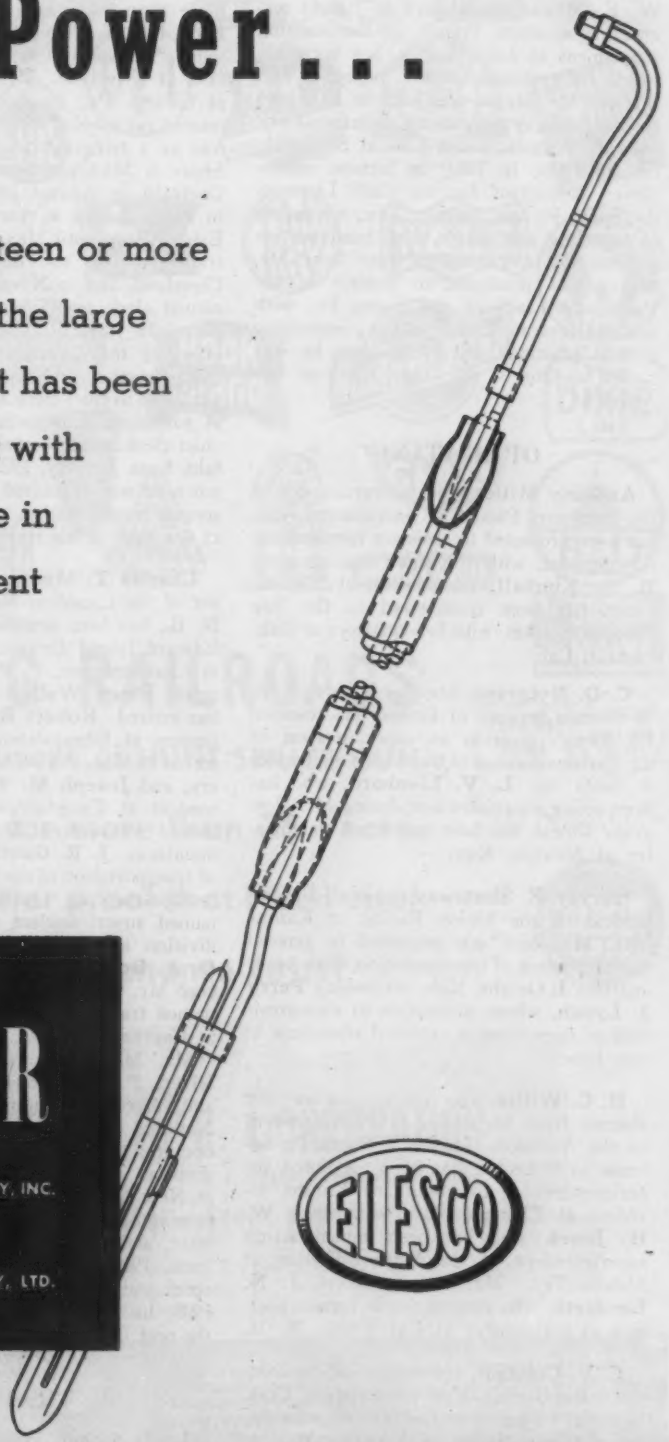
Henry P. Stacy, assistant general attorney of the Michigan Central (part of the New York Central System) at Detroit,

News Department continued on next left-hand page

"Pep Up"

that *Older* Power...

For those locomotives built fifteen or more years ago and equipped with the large flue superheater, a special unit has been designed for higher superheat with resultant economy. No change in fluesheets... just remove present type "A" units and install improved set.



THE
SUPERHEATER
COMPANY
Representative of AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK—
122 S. Michigan Ave., CHICAGO
Montreal, Canada, THE SUPERHEATER COMPANY, LTD.

ELESCO

A-1736

Superheaters • Superheater Pyrometers • Exhaust Steam Injectors • Steam Dryers • Feedwater Heaters • American Throttles

Mich., has been promoted to general attorney of the New York Central, with the same headquarters, succeeding **William A. Alfs**, who has resigned to enter private practice.

A. E. Meyer, auditor of the Atchison, Topeka & Santa Fe, Coast Lines, at Los Angeles, Cal., has retired after 55 years of railroad service. **C. F. Lodter**, assistant auditor at Los Angeles, has been promoted to auditor succeeding Mr. Meyer. **W. E. Miller**, chief clerk in freight and interline accounts branch of the auditing department at Los Angeles, has been advanced to assistant auditor, replacing Mr. Lodter. Mr. Meyer was born in 1875, and entered railway service as a junior clerk with the Atlantic Coast Line at Savannah, Ga., in 1890. In 1903, he became motive power accountant for the Gulf Lines of the Santa Fe at Cleburne, Tex., advancing to traveling accountant with headquarters at Chicago in 1906. One year later Mr. Meyer was promoted to auditor of the Panhandle Lines of the Santa Fe, with headquarters at Amarillo, Tex., remaining in that position until 1938, when he was named auditor of the Coast Lines at Los Angeles.

OPERATING

Anthony Miller, general yardmaster of the Southern Pacific at Sacramento, Cal., has been promoted to assistant terminal superintendent, with the same headquarters. **B. B. Kimball**, trainmaster at Tucson, Ariz., has been transferred to the San Joaquin division, with headquarters at Bakersfield, Cal.

C. D. Notgrass, who has been on leave of absence because of illness, has resumed his former position as superintendent of the Eastern division of the Atchison, Topeka & Santa Fe. **L. V. Lienhard**, who has been acting superintendent during Mr. Notgrass' illness, has been appointed trainmaster at Newton, Kan.

Harvey E. Shumway, general superintendent of the Union Pacific at Kansas City, Mo., has been promoted to general superintendent of transportation, with headquarters at Omaha, Neb., succeeding **Perry J. Lynch**, whose promotion to vice-president of operations is reported elsewhere in this issue.

H. C. Willis, who has been on leave of absence from his duties as superintendent on the Atchison, Topeka & Santa Fe because of ill-health, has been appointed superintendent of the Southern Kansas division, at Chanute, Kan., succeeding **W. H. Jones**, who has been named acting superintendent of the Slaton division at Slaton, Tex. Mr. Jones relieves **J. N. Landreth**, who returns to his former position as trainmaster at Las Vegas, N. M.

C. V. Colstadt, trainmaster of the Denver & Rio Grande Western at Helper, Utah, has been advanced to assistant superintendent of transportation, with headquarters at Denver, Colo., succeeding **L. H. Hale**, whose promotion to superintendent of the Alamosa division was reported in the *Railway Age* of July 28. **R. O. Erwin** has been appointed trainmaster, with headquarters at Helper, replacing Mr. Colstadt. **O. R. Lundborg** has been appointed terminal trainmaster at Grand Junction, Colo., relieving **B. J. Love**, who has retired and **C. E. McEnany** has been appointed trainmaster of the Pueblo division.

Elmer L. Bennett, superintendent passenger transportation of the New York Central at Cleveland, Ohio, has retired after more than 52 years' service, and **D. T. Hart** has been named superintendent passenger transportation, Line West of Buffalo, at Cleveland. Mr. Bennett was born at Girard, Pa., on August 10, 1875, and entered railroading with the New York Central as a telegraph operator on the Lake Shore & Michigan Southern (part of the Central) on August 10, 1893. He served in that capacity at various points on the Erie division until May, 1900, when he was transferred to the dispatcher's office at Cleveland, and in November, 1907, he was named clerk to the chief train dispatcher there. In July, 1917, he transferred to the office of the superintendent of passenger transportation, and one year later he was advanced to chief clerk to the superintendent of passenger transportation. He served as chief clerk and inspector, lines west of Buffalo, from January, 1925, to October, 1928, when he was appointed superintendent passenger transportation, the position he held at the time of his recent retirement.

Charles T. Montgomery, superintendent of the Canadian National at Moncton, N. B., has been transferred to the Prince Edward Island division, with headquarters at Charlottetown, P. E. I., where he succeeds **Ewen Walter MacKinnon**, who has retired. **Robert B. Graham**, superintendent at Edmundston, N. B., has transferred to Moncton, replacing Mr. Montgomery, and **Joseph M. Thompson**, superintendent at Campbellton, N. B., has been named to succeed Mr. Graham at Edmundston. **J. E. Gauthier**, superintendent of transportation of the Quebec district with headquarters at Quebec, Que., has been named superintendent of the Campbellton division in place of Mr. Thompson, and **O. A. Boivin** has been appointed to succeed Mr. Gauthier. **W. B. Edey** has been named trainmaster of the Capreol division at Capreol, Ont.

Mr. MacKinnon was born at Hunter River, P. E. I., on December 21, 1883, and entered railroading with the Canadian National in November, 1900, as relieving operator on what is now the New Glasgow division. He was promoted to operator at New Glasgow, N. S., in May, 1901, becoming operator and despatcher three years later, and despatcher in March, 1913. In June, 1923, he went to Charlottetown as chief train despatcher, and in November, 1930, he was promoted to superintendent, the post from which he has now retired.

TRAFFIC

L. J. Sickel, general freight agent of the Missouri Pacific, with headquarters at St. Louis, Mo., has retired after more than 50 years of service.

Lloyd W. Baker, assistant general freight agent of the Baltimore & Ohio at Cincinnati, Ohio, has been appointed general freight agent at Baltimore, Md.

J. S. Breyer, master mechanic of the Southern at Meridian, Miss., has been promoted to general industrial agent, with the same headquarters, a newly-created position.

W. L. Mansfield, general passenger agent of the Chicago, St. Paul, Minneapolis & Omaha, at St. Paul, Minn., has retired. **R. J. Steiner** has been appointed assistant general passenger agent at St. Paul, succeeding to the duties of Mr. Mansfield.

S. H. Johnson, assistant general passenger agent of the Southern at Birmingham, Ala., has been promoted to general passenger agent there. **C. M. Hill**, division passenger agent at Atlanta, Ga., has been named assistant general passenger agent with the same headquarters.

George H. Griffin, traffic supervisor of the Canadian National, has been appointed manager of the Express Traffic Association of Canada at Montreal, Que., succeeding the late **I. M. Harper**, whose position as chairman has been abolished. **M. J. Edwards**, chief clerk of the Association at Montreal, has been named chief inspector with the same headquarters, a newly-created position.

Charles C. Elder, commercial agent of the Southern at New York, has been appointed district freight and passenger agent with the same headquarters. **R. H. Graham**, assistant general passenger agent at Charlotte, N. C., has been advanced to general purchasing agent there, and **John J. Rutledge**, district freight and passenger agent at Evansville, Ind., has been promoted to the newly-created position of division freight and passenger agent with the same headquarters.

Clyde E. Flowers, whose appointment as general freight agent in charge of divisions of the Southern at Atlanta, Ga., was announced in the *Railway Age* of August 25, was born on February 1, 1899, at Ozark, Ala., and received his higher education at Atlanta Law School. He entered the employ of the Southern as a clerk at Atlanta in July, 1920, and in September, 1925, he was promoted to chief clerk to the freight traffic manager. He was named officer's assistant in October, 1926, and in May, 1929, he was advanced to assistant general freight agent at Cincinnati, Ohio. He served in the same capacity at Washington, D. C., and transferred to Atlanta in July, 1934, remaining in that post until his recent appointment as general freight agent.

Chester D. Lafferty, whose promotion to general industrial agent of the Southern Pacific, at San Francisco, Cal., was reported in the *Railway Age* of August 18, was born at Trenton, Mo., and received his higher education at Oregon State College. He entered railway service as a freight trucker with the Southern Pacific at Corvallis, Ore., subsequently serving in various station clerical positions. In 1923, Mr.

News Department continued on next left-hand page

76 LEADING RAILROADS

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Lafferty transferred to the traffic department as general clerk in the general agent's office at Seattle, Wash., later becoming traveling freight and passenger agent. He was promoted to industrial agent at Portland in 1928, following which he became assistant general freight agent at that point. In 1937 he was named industrial agent at San Francisco, remaining in that position until his recent promotion.

The Minneapolis & St. Louis has announced a number of personnel promotions and changes in its traffic department as follows: **Charles B. Kerr,** general freight agent, has been promoted to assistant freight traffic manager. **J. P. Heavers** and **C. L. Fuller,** assistant general freight agents, have been advanced to assistant traffic managers, with headquarters as before at Chicago and Minneapolis, Minn., respectively. **Paul W. Muske,** assistant general freight agent at Minneapolis, has been promoted to general freight agent in charge of office management, with the same headquarters. **C. E. Hill,** general agent at Des Moines, Iowa, has been advanced to assistant general freight agent at that point. **R. G. Malmquist,** general agent at St. Paul, Minn., has been promoted to assistant general freight agent with the same headquarters. **Arthur C. Leake,** general agent at St. Louis, Mo., has been advanced to traffic manager at that point, with jurisdiction over the agencies at St. Louis, Birmingham, Ala., and New Orleans, La. **G. D. Larrabee,** general agent at Birmingham, Ala., has been transferred to St. Louis, succeeding Mr. Leake, and **R. D. Luce,** traveling agent, with headquarters at St. Louis, has been advanced to general agent at Birmingham, replacing Mr. Larrabee. **V. G. Russell,** commercial agent at Minneapolis, has been promoted to general agent, with headquarters at St. Paul.

Robert A. Trovillion, whose promotion to general traffic manager of the Illinois Central, with headquarters at Chicago, was reported in the *Railway Age* of August 25,

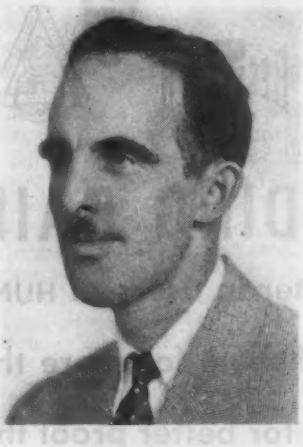
Robert A. Trovillion

was born at Golconda, Ill., on August 26, 1887, and entered railway service as a stenographer in the office of the assistant general freight agent of the Illinois Central at St. Louis on December 10, 1906. He served in various capacities until February 15, 1916, when he was transferred to Chicago as assistant chief clerk in the general freight department. On January 16, 1918, he obtained a leave of absence to join the U. S. Army, and after the war he returned to the Illinois Central as chief clerk in the general freight department at Chicago. Mr. Trovillion was promoted to assistant general freight agent on May 19, 1925, and on February 1, 1935, he was further advanced to general freight agent. In April, 1939, he was promoted to assistant freight traffic manager, with headquarters at Chicago, and, in August, 1944, he was advanced to freight traffic manager, with the same headquarters, the position he held at the time of his new appointment.

ENGINEERING & SIGNALING

H. R. Wilkinson, division engineer of the Canadian National at Prince Albert, Sask., has been transferred to Victoria, B. C., succeeding **St. John Munro,** whose promotion to district engineer of the British Columbia district was reported in the *Railway Age* of August 25.

Thomas D. Saunders, whose appointment as chief engineer of the Temiskaming & Northern Ontario at North Bay, Ont.,



Thomas D. Saunders

was announced in the *Railway Age* of July 14, was born at Winnipeg, Man., on May 14, 1901, and attended the University of Toronto. After serving as a draftsman with the firm of Ewart, Jacob Armer & Byam, consulting engineers, at Toronto, he entered railroading on April 1, 1924, as a rodman in the Southern Ontario district of the Canadian National at Toronto. After subsequent promotions to instrumentman and assistant division engineer, successively, Mr. Saunders joined the Temiskaming & Northern Ontario on October 31, 1940, as engineering assistant to the chief engineer at North Bay, the position he held at the time of his recent promotion to chief engineer.

George L. Morrison, division engineer of the Southern Pacific at Dunsmuir, Cal., has been promoted to assistant engineer, maintenance of way and structures, with headquarters at San Francisco, Cal. **J. E. Wheeler,** assistant division engineer, with headquarters at Tucson, Ariz., has been advanced to division engineer at Dunsmuir, succeeding Mr. Morrison.

MECHANICAL

Fred E. Godwin, district boiler inspector of the Canadian National at Montreal, Que., has been appointed mechanical inspector of locomotives.

J. T. Mallard, master mechanic of the Norfolk Southern's Raleigh shops at Raleigh, N. C., has retired, and that position has been abolished. **E. H. Roy** has been named general foreman of the shops at Raleigh.

Harold Edward Moore has been named master mechanic of the Prince Edward Island division of the Canadian National, succeeding **John Francis Leightizer,** who has retired after more than 40 years of service.

O. R. Barefoot, division master mechanic of the Canadian Pacific at Toronto, Ont., has been promoted to assistant superintendent of motive power, eastern lines, at Toronto, succeeding **W. G. McPherson,** who has retired.

Bernard Cook, general foreman, locomotive department of the Norfolk & Western at Roanoke, Va., has been promoted to superintendent of the Roanoke shops succeeding **R. L. Black,** who has retired after 55 years' service.

SPECIAL

Harry Boller, assistant personnel officer of the Chicago, Great Western at Chicago, has been promoted to personnel officer, succeeding **R. E. Kennedy,** who has retired.

OBITUARY

Heath Pate, division freight and passenger agent of the Atchison, Topeka & Santa Fe, at Stockton, Cal., died suddenly at Tracey, Cal., on August 28.

G. A. Harrison, general agent, passenger department, of the Grand Trunk (part of the Canadian National) at Portland, Me., died there on August 18.

Robert Murray Mitchell, general right of way agent of the Canadian National at Montreal, Que., died there on August 29. He was 59 years old.

W. D. Llewellyn, whose retirement as general manager of the Railway Express Agency, Northern department, at St. Paul, Minn., was reported in the *Railway Age* of January 20, died recently at the age of 63, in the Northern Pacific Hospital in St. Paul, Minn.

E. K. Fleming, who retired on December 31, 1935, as assistant freight traffic manager of the Chicago, Burlington & Quincy, died on August 31, at the age of 80 years, at his home in Chicago.

Table of Freight Operating Statistics begins on next left-hand page

Tomorrow's
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Freight Operating Statistics of Large Steam Railways—Selected

Region, road, and year		Miles of road operated	Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (*thousands*)	Car-miles: Per cent loaded	Ton-miles (*thousands*): Gross excl. locos. & tenders	Ton-miles (*thousands*): Net-rev. and non-rev.	Road locos. on line: Serviceable: Unstored	Road locos. on line: Serviceable: Stored	Road locos. on line: B. O.	Road locos. on line: Per cent B. O.
New England Region:													
Boston and Albany	1945	362	169,310	190,535	27,923	3,869	62.0	258,930	108,115	71	..	19	21.1
	1944	362	163,975	192,701	26,923	4,049	61.6	277,221	118,107	78	..	15	16.1
Boston & Maine	1945	1,777	333,887	348,645	16,441	12,851	68.7	818,037	367,526	131	21	17	10.1
	1944	1,807	371,533	423,829	41,179	13,689	66.6	899,059	405,366	155	..	17	9.9
N. Y., New H. & Hartf.**	1945	1,815	452,065	618,053	50,845	18,071	70.5	1,085,903	484,113	216	24	33	15.1
	1944	1,815	516,829	646,098	60,600	18,511	65.0	1,190,552	520,897	235	2	23	14.7
Great Lakes Region:													
Delaware & Hudson	1945	846	291,813	359,249	38,217	12,978	68.5	911,121	482,358	131	60	28	12.8
	1944	846	312,980	376,987	35,829	13,254	65.7	947,368	501,170	136	51	31	14.2
Del., Lack. & Western	1945	971	377,287	424,884	52,576	15,985	70.8	1,046,192	502,430	135	38	34	16.4
	1944	971	366,890	428,776	67,990	15,925	68.6	1,059,264	504,082	137	34	26	13.2
Erie	1945	2,243	875,243	935,277	64,194	43,171	67.8	2,801,721	1,253,003	294	30	60	15.6
	1944	2,244	939,648	1,005,587	70,646	43,890	66.0	2,910,445	1,272,477	320	28	55	13.6
Grand Trunk Western	1945	1,026	266,119	271,203	1,825	8,606	69.7	539,532	243,780	65	1	12	15.4
	1944	1,026	258,763	265,740	2,366	8,429	65.1	537,775	231,314	68	..	11	13.9
Lehigh Valley	1945	1,247	412,370	455,712	60,667	19,184	67.0	1,328,462	666,084	135	26	8	4.7
	1944	1,247	584,708	655,290	94,243	24,547	59.6	1,801,060	852,317	156	..	11	6.6
New York Central	1945	10,331	3,425,428	3,698,637	232,451	133,699	66.2	9,102,860	4,347,471	1,088	45	263	18.8
	1944	10,325	3,599,171	3,868,293	247,216	137,110	62.5	9,700,768	4,534,690	1,150	20	244	17.3
New York, Chi. & St. L.	1945	1,656	710,258	725,481	9,923	29,416	69.5	1,877,635	856,262	164	18	18	9.0
	1944	1,657	836,804	843,999	9,451	33,010	65.4	2,196,137	981,440	173	..	13	7.0
Pere Marquette	1945	1,915	455,731	471,370	12,057	16,249	66.6	1,088,991	512,811	141	2	22	13.3
	1944	1,915	433,907	450,153	11,685	14,764	65.7	1,003,474	473,431	143	..	25	14.9
Pitts. & Lake Erie	1945	229	97,228	98,243	376	4,350	67.4	359,207	212,809	32	..	15	31.9
	1944	229	96,393	101,808	93	4,353	65.7	372,073	221,847	34	..	11	24.4
Wabash	1945	2,381	740,821	767,831	17,066	27,159	71.7	1,743,880	811,353	177	..	35	16.5
	1944	2,381	759,417	781,810	18,015	27,640	68.5	1,809,415	817,215	174	5	42	19.0
Central Eastern Region:													
Baltimore & Ohio	1945	6,095	2,385,938	2,968,501	321,140	86,694	66.3	6,245,798	3,200,589	923	5	236	20.3
	1944	6,110	2,512,356	3,127,573	307,307	86,838	62.7	6,445,194	3,227,464	921	..	207	18.4
Central of New Jersey**	1945	654	213,770	246,667	52,906	8,500	66.1	590,540	302,110	106	17	25	16.9
	1944	655	236,204	275,281	60,509	8,080	59.5	607,602	303,521	112	14	22	14.9
Chicago & Eastern Ill.	1945	912	270,253	273,690	7,286	7,947	62.0	562,285	261,729	72	1	7	8.8
	1944	912	343,724	355,910	12,880	10,595	59.6	759,078	343,446	80	..	6	7.0
Elgin, Joliet & Eastern	1945	392	124,032	128,661	3,704	3,663	67.1	279,018	150,755	56	2	18	23.7
	1944	392	135,475	139,599	3,708	3,751	66.9	293,829	161,850	62	..	14	18.4
Long Island	1945	372	31,487	32,958	15,031	369	56.8	26,711	11,770	45	..	3	6.3
	1944	372	35,142	36,633	15,635	381	55.1	28,852	12,517	43	..	6	12.2
Pennsylvania System	1945	10,024	4,491,096	5,225,854	683,420	178,417	66.1	12,531,630	6,256,052	2,046	..	198	8.8
	1944	9,880	4,823,168	5,619,083	726,493	186,484	62.2	13,608,885	6,626,582	2,014	2	204	9.2
Reading	1945	1,365	540,053	604,063	73,015	19,062	68.0	1,420,934	789,049	252	34	48	14.4
	1944	1,409	581,087	655,525	82,709	18,411	64.3	1,399,318	756,365	262	13	44	13.8
Pocahontas Region:													
Chesapeake & Ohio	1945	3,038	1,115,236	1,191,505	56,920	53,717	59.0	4,530,252	2,622,051	438	20	82	15.2
	1944	3,032	1,128,162	1,219,713	56,850	52,797	56.8	4,614,363	2,650,034	430	4	66	13.2
Norfolk & Western	1945	2,139	727,804	779,372	56,221	35,267	60.4	2,997,489	1,637,997	259	29	14	4.6
	1944	2,132	811,511	863,259	59,570	38,390	59.0	3,299,580	1,785,154	290	26	20	6.0
Southern Region:													
Atlantic Coast Line	1945	4,926	1,001,742	1,015,951	14,608	27,811	67.3	1,794,322	818,198	394	5	33	7.6
	1944	4,953	1,016,744	1,029,888	13,540	27,151	63.6	1,839,436	824,121	363	10	33	8.1
Central of Georgia**	1945	1,783	319,363	336,270	6,377	8,042	73.4	502,293	230,322	100	..	8	7.4
	1944	1,783	374,277	384,342	6,817	8,640	64.8	585,723	264,697	98	..	7	6.7
Gulf, Mobile & Ohio	1945	1,931	306,394	392,092	2,024	11,424	76.8	701,584	337,802	100	5	12	10.3
	1944	1,962	308,080	387,525	2,596	11,018	72.3	721,606	351,470	110	..	11	9.1
Illinois Central (incl. Yazoo & Miss. Vy.)	1945	6,346	1,678,399	1,695,122	28,650	63,671	62.4	4,428,447	2,030,406	627	..	62	9.0
	1944	6,347	1,672,273	1,685,640	31,594	64,591	63.9	4,474,938	2,100,060	656	..	42	6.0
Louisville & Nashville	1945	4,746	1,613,526	1,750,265	46,461	43,343	64.4	3,045,102	1,528,815	419	8	64	13.0
	1944	4,734	1,600,814	1,730,915	42,442	41,543	62.4	3,021,371	1,522,103	422	12	62	12.5
Seaboard Air Line*	1945	4,157	872,707	927,301	16,628	25,076	70.6	1,578,456	711,580	282	4	52	15.4
	1944	4,161	910,312	961,268	18,841	24,920	67.3	1,652,108	741,767	296	2	48	13.9
Southern	1945	6,471	2,037,202	2,068,083	37,215	48,387	72.7	2,945,838	1,361,873	629	..	85	11.9
	1944	6,479	2,163,568	2,208,503	35,650	48,677	68.1	3,174,502	1,473,518	604	..	80	11.7
Northwestern Region:													
Chi. & North Western	1945	8,062	1,035,371	1,069,555	25,604	35,019	71.4	2,331,642	1,103,098	350	13	105	22.4
	1944	8,074	1,002,655	1,047,250	21,935	32,572	68.3	2,214,363	1,009,732	381	14	89	18.4
Chicago Great Western	1945	1,445	271,607	277,226	6,078	8,962	75.3	562,241	258,508	74	..	9	10.8
	1944	1,445	272,808	278,831	6,221	8,831	72.7	569,541	263,132	78	..	4	4.9
Chi., Milw., St. P. & Pac.**	1945	10,723	1,538,965	1,647,205	84,938	56,538	68.5	3,794,801	1,829,169	502	42	62	10.2
	1944	10,715	1,481,176	1,567,570	66,227	50,310	69.9	3,346,682	1,624,474	497	43	68	11.2
Chi., St. P., Minneap. & Om.	1945	1,606	197,419	215,573	12,480	5,670	73.6	373,180	179,117	86	15	26	20.5
	1944	1,606	196,019	209,926	10,875	5,301	69.4	359,723	168,905	93	26	13	9.8
Duluth, Missabe & I. R.	1945	546	166,291	167,042	1,051	8,946	51.1	831,064	511,201	48	..	2	4.0
	1944	546	171,699	172,581	1,287	9,477	50.7	887,479	544,810	54	..	..	..
Great Northern	1945	8,276	1,267,208	1,269,423	61,428	53,517	66.2	3,889,229	1,958,624	398	23	46	9.9
	1944	8,276	1,187,497	1,182,754	49,202	48,320	69.4	3,485,613	1,833,692	399	14	53	11.4
Minneap., St. P. & S. St. M.	1945	4,259	451,693	462,974	7,593	13,215	69.1	911,928	455,770	133	2	13	8.8
	1944	4,259	431,413	443,750	8,702	12,240	67.5	838,510	410,263	127	1	6	4.5
Northern Pacific	1945	6,577	989,162	1,054,782	77,350	43,287	74.7	2,896,939	1,471,551	279	12	51	11.5
	1944	6,571	873,839	932,486	69,612	36,924	76.7	2,433,824	1,265,800	363	20	53	12.2
Central Western Region:													
Alton**	1945	915	280,873	301,446	652	7,839	70.1	514,064	246,027	75	..	6	7.4
	1944	915	252,197	266,972	505	6,690	65.9	464,760	225,303	71	2	5	6.4
Atch. Top. & S. Fe (incl. G. C. & S. F. & P. & S. F.)	1945	13,115	3,938,983	4,165,720	213,986	144,109	62.2	10,080,048	4,019,915	917	2	102	10.0
	1944	13,093	3,494,527	3,740,612	231,852	130,231	64.6	8,795,497	3,382,769	863	8	107	10.9
Chi., Burl. & Quincy	1945	8,768	1,389,464	1,468,873	51,516	55,833	71.1	3,726,102	1,826,428	427	..	77	15.3
	1944	8,794	1,383,276	1,455,165	45,724	52,229	66.7	3,634,340	1,751,777	458	..	69	13.1
Chi., Rock I. & Pac.**	1945	7,716	1,501,964	1,572,182	22,516	47,078	68.5	3,097,310	1,420,364	395	..	65	14.1
	1944	7,718	1,379,750	1,452,074	16,351	41,178	63.3	2,804,019	1,211,133	410	..	63	13.3
Denver & R. G. Wn.**	1945	2,386	497,551	568,562	118,582	18,614	79.5	1,158,739	587,294	186	7	28	12.7
	1944	2,391	408,060	461,513	74,495	14,570	77.2	908,850	448,416	153	10	41	20.1
Southern Pacific—Pacific Lines	1945	8,179	2,390,865	2,630,685	410,353	105,706	68.6	6,923,559	2,851,924	790	2	151	16.0
	1944	8,193	2,289,606	2,622,582	385,476	97,923	69.1	6,321,360	2,647,432	842	..	119	12.4
Union Pacific	1945	9,781	3,217,165	3,427,997	298,732	123,419	70.2	7,945,076	3,620,654	842	17	61	6.6
	1944	9,782	2,619,936	2,787,879	227,555	104,948	74.4	6,592,400	3,161,245	740	54	62	7.2
Southwestern Region:													
Mo.-Kans.-Texas Lines	1945	3,241	801,584	833,033	14,170	22,103	61.3	1,523,863	676,528	152	..	17	10.1
	1944	3,241	906,660	939,771	17,607	24,703	58.8	1,714,313	749,180	154	..	16	9.4
Missouri Pacific**	1945	7,056	1,655,014	1,751,601	41,383	60,320	67.3	3,979,702	1,847,744	475	..	66	12.2
	1944	7,071	1,686,681	1,760,453	38,382	59,561	64.6	4,081,276	1,859,618	495	2	56	10.1
Texas & Pacific	1945	1,871	493,894	493,894	8,251	17,214	69.7	1,108,297	473,689	132	9	19	11.9
	1944	1,882	418,624	418,624	6,059	13,955	65.5	925,274	375,396	124	16	12	7.9
St. Louis-San Francisco**	1945	4,615	1,104,383	1,181,945	16,942	28,274	68.2	1,868,067	877,427	317	..	29	8.4
	1944	4,616	1,097,645	1,177,079	28,285	26,519	61.7	1,850,691	824,001	318	..	30	8.6
St. Louis-San Fran. & Texas	1945	161	34,983	36,992	....	575	68.2	38,314	16,083	7	..	1	12.5
	1944	159	36,383	37,571	41	574	64.0	38,886	16,057	8	..	1	11.1
St. Louis Southwestern Lines**	1945	1,600	483,774	490,881	6,530	17,518	68.8	1,089,390	486,972	114	3	24	17.0
	1944	1,600	560,280	575,244	7,954	19,502	69.5	1,221,091	528,273	123	2	24	16.1
Texas & New Orleans	1945	4,325	1,138,334	1,139,531	43,693	29,292	65.8	1,957,604	855,587	244	..	35	12.5
	1944	4,339	1,104,743	1,109,668	23,272	30,297	67.1	1,993,182	889,354	259	1	27	6.1

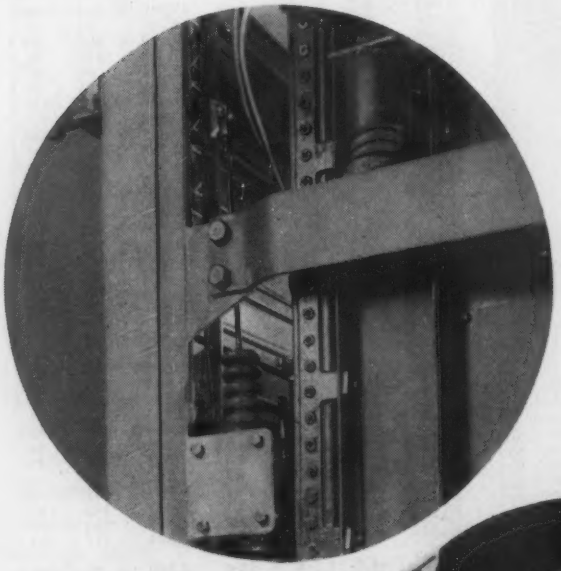
* Report of receivers.
** Report of trustee or trustees.

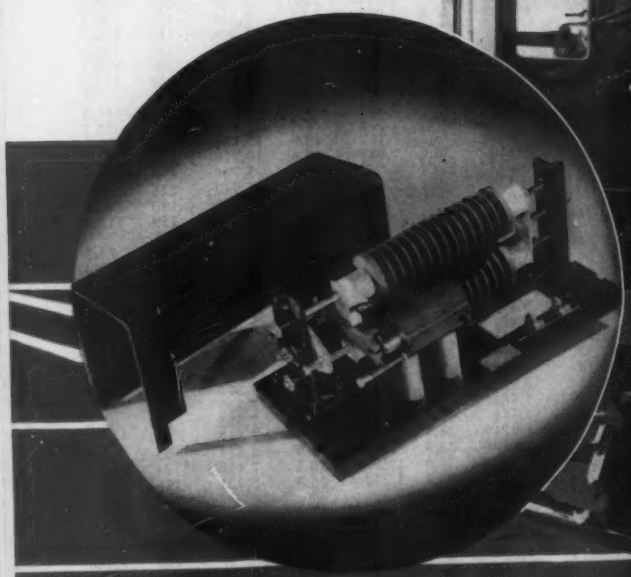
Items for the Month of June 1945 Compared with June 1944

Region, road, and year		Freight cars on line: Home	Foreign	Total	Per Cent B. O.	G.t.m. per train-hr. excl.locos. and tenders	G.t.m. per train-mi. excl.locos. and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd. car-mile	Net ton-mi. per car-day	Car miles per car-day	Net daily ton-mi. per road-mi.	Coal lb. per 1000 g.t.m. inc. loco.	Mi. per loco. per day
New England Region:														
Boston & Albany	1945	253	5,593	5,846	0.5	23,843	1,535	641	27.9	616	35.5	9,955	182	88.2
	1944	347	5,789	6,136	0.2	27,075	1,697	723	29.2	621	34.6	10,875	180	86.4
Boston & Maine	1945	1,856	10,817	12,673	2.3	38,094	2,456	1,103	28.6	956	48.6	6,894	102	78.5
	1944	2,509	11,173	13,682	3.2	37,214	2,426	1,094	29.6	949	48.1	7,478	93	93.8
N. Y., New H. & Hartf.**	1945	1,869	19,419	21,288	4.2	33,745	2,410	1,074	28.8	754	39.9	8,891	85	87.9
	1944	3,351	20,495	23,846	3.5	34,458	2,339	1,023	28.1	732	40.0	9,567	95	93.9
Great Lakes Region:														
Delaware & Hudson	1945	3,966	7,192	11,158	3.4	52,892	3,140	1,663	37.2	1,529	60.0	19,005	101	64.2
	1944	3,425	6,125	9,550	2.6	51,212	3,043	1,610	37.8	1,785	71.9	19,747	99	67.3
Del., Lack. & Western	1945	4,761	12,902	17,663	2.7	43,374	2,804	1,347	31.4	942	42.3	17,248	109	83.3
	1944	5,859	12,367	18,226	3.0	42,849	2,916	1,387	31.7	915	42.2	17,305	111	91.5
Erie	1945	7,728	30,594	38,322	2.8	53,133	3,220	1,440	29.0	1,091	55.4	18,621	90	93.9
	1944	10,501	26,386	36,887	2.8	51,197	3,112	1,361	29.0	1,151	60.2	18,902	85	96.4
Grand Trunk Western	1945	1,830	7,761	9,591	5.1	41,928	2,037	921	28.3	791	40.1	7,920	82	124.1
	1944	3,051	6,806	9,857	4.6	42,033	2,092	900	27.4	765	42.8	7,515	81	121.9
Lehigh Valley	1945	5,461	19,980	25,441	2.2	55,233	3,319	1,664	34.7	881	37.9	17,805	92	107.3
	1944	7,565	20,954	28,519	2.4	51,628	3,200	1,515	34.7	957	46.3	22,783	101	156.1
New York Central	1945	41,503	96,283	137,786	4.2	43,113	2,691	1,285	32.5	1,042	48.4	14,027	98	103.6
	1944	49,156	96,200	145,356	3.0	44,125	2,728	1,275	33.1	1,046	50.6	14,640	97	107.3
New York, Chi. & St. L.	1945	2,094	13,328	15,422	2.4	50,849	2,651	1,209	29.1	1,804	89.2	17,236	83	130.3
	1944	2,893	14,740	17,633	2.2	49,968	2,636	1,178	29.7	1,922	98.9	19,743	81	160.8
Pere Marquette	1945	2,977	8,860	11,837	2.7	42,984	2,411	1,135	31.6	1,320	62.8	8,926	85	103.4
	1944	2,713	8,796	11,509	2.9	41,304	2,348	1,108	32.1	1,359	64.5	8,241	83	97.8
Pitts. & Lake Erie	1945	3,956	9,847	13,803	6.7	53,090	3,696	2,190	48.9	505	15.3	30,977	89	76.3
	1944	3,724	9,267	12,991	4.2	54,365	3,860	2,301	51.0	585	17.5	32,292	80	82.8
Wabash	1945	5,565	12,564	18,129	4.4	44,886	2,375	1,105	29.9	1,444	67.4	11,359	104	128.7
	1944	6,395	13,771	20,166	3.1	46,135	2,401	1,084	29.6	1,328	65.6	11,441	98	125.4
Central Eastern Region:														
Baltimore & Ohio	1945	37,752	56,186	93,938	4.6	32,642	2,673	1,370	36.9	1,180	48.2	17,504	137	96.6
	1944	42,212	60,465	102,677	2.9	31,570	2,635	1,319	37.2	1,046	44.9	17,608	134	105.0
Central of New Jersey**	1945	3,818	14,756	18,574	5.7	33,929	2,839	1,452	35.5	539	22.9	15,398	109	84.9
	1944	5,540	15,125	20,665	3.0	33,253	2,588	1,293	37.6	478	21.4	15,446	124	94.9
Chicago & Eastern Ill.	1945	2,585	4,810	7,395	4.5	38,693	2,126	990	32.9	1,187	58.2	9,566	111	118.8
	1944	2,272	4,990	7,262	3.7	39,509	2,285	1,034	32.4	1,578	81.7	12,553	104	144.7
Elgin, Joliet & Eastern	1945	8,157	6,095	14,252	2.4	19,279	2,371	1,281	41.2	345	12.5	12,819	129	82.1
	1944	8,917	5,906	14,823	2.7	18,804	2,303	1,268	43.1	362	12.5	13,763	125	88.7
Long Island	1945	36	5,396	5,432	.5	6,159	859	378	31.9	74	4.1	1,055	297	49.7
	1944	33	4,738	4,771	.8	6,457	836	363	32.9	85	4.7	1,122	304	49.6
Pennsylvania System	1945	114,618	122,180	236,798	5.0	39,976	2,884	1,440	35.1	885	38.1	20,804	117	95.1
	1944	126,846	119,910	246,756	3.4	39,689	2,911	1,417	35.5	887	40.1	22,357	116	103.1
Reading	1945	10,821	21,426	32,247	2.8	35,389	2,633	1,462	41.4	779	27.7	19,269	100	77.3
	1944	12,204	22,974	35,178	1.7	30,876	2,412	1,304	41.1	729	27.6	17,894	117	85.4
Pocahontas Region:														
Chesapeake & Ohio	1945	37,708	19,021	56,729	1.6	60,045	4,114	2,381	48.8	1,540	53.4	28,769	72	84.4
	1944	36,718	17,216	53,934	1.2	59,857	4,148	2,382	50.2	1,580	55.4	29,134	72	92.4
Norfolk & Western	1945	29,041	7,213	36,254	2.0	66,362	4,167	2,277	46.4	1,477	52.6	25,526	82	98.1
	1944	31,159	8,718	39,877	1.7	65,985	4,120	2,229	46.5	1,562	56.9	27,910	81	98.3
Southern Region:														
Atlantic Coast Line	1945	6,270	14,958	21,228	1.7	29,913	1,801	821	29.4	1,188	60.0	5,537	113	85.1
	1944	7,960	17,734	25,694	2.4	30,628	1,816	814	30.4	1,024	53.1	5,546	102	90.8
Central of Georgia**	1945	1,835	7,155	8,990	1.2	28,828	1,579	724	28.6	828	39.4	4,306	131	114.7
	1944	1,855	6,548	8,403	1.5	30,046	1,578	713	30.6	1,004	50.5	4,949	121	130.6
Gulf, Mobile & Ohio	1945	1,492	7,971	9,463	.9	40,747	2,298	1,106	29.6	1,200	52.9	5,831	107	118.5
	1944	2,091	7,449	9,540	1.0	40,535	2,348	1,144	31.9	1,208	52.4	5,971	108	112.3
Illinois Central (incl. Yazoo & Miss. Vy.)	1945	18,254	36,272	54,526	.9	44,672	2,720	1,247	31.9	1,217	61.2	10,665	108	86.6
	1944	18,729	34,521	53,250	1.0	44,210	2,747	1,289	32.5	1,316	63.4	11,029	109	85.7
Louisville & Nashville	1945	27,302	17,821	45,123	6.2	30,190	1,887	948	35.3	1,112	48.9	10,738	125	128.9
	1944	31,466	15,065	46,531	3.5	29,873	1,887	951	36.6	1,089	47.6	10,718	120	125.5
Seaboard Air Line*	1945	4,883	16,666	21,549	1.9	32,730	1,867	842	28.4	1,069	53.4	5,706	119	102.7
	1944	6,535	16,533	23,068	2.1	31,912	1,861	835	29.8	1,039	51.9	5,942	126	102.4
Southern	1945	13,608	30,406	44,014	3.5	25,300	1,464	677	28.1	1,023	50.0	7,015	140	103.8
	1944	16,988	32,560	49,548	2.3	25,497	1,486	690	30.3	987	47.9	7,581	139	114.4
Northwestern Region:														
Chi. & North Western	1945	19.223	31,410	50,633	4.1	36,185	2,326	1,101	31.5	736	32.7	4,561	117	84.2
	1944	23,102	31,811	54,913	3.5	34,386	2,292	1,045	31.0	627	29.6	4,169	113	78.4
Chicago Great Western	1945	928	4,442	5,370	2.5	35,789	2,086	959	28.8	1,633	75.2	5,963	117	122.3
	1944	1,178	4,688	5,866	1.9	35,397	2,098	969	29.8	1,559	72.0	6,070	118	121.9
Chi., Milw., St. P. & Pac.**	1945	20,292	32,654	52,946	1.7	39,352	2,484	1,197	32.4	1,146	51.7	5,686	112	102.3
	1944	25,558	31,022	56,580	1.7	35,598	2,281	1,107	32.3	955	42.3	5,054	116	96.4
Chi., St. P., Minneap. & Om.	1945	819	6,295	7,114	7.5	26,192	1,910	917	31.6	832	35.8	3,718	102	63.4
	1944	957	6,750	7,707	5.5	25,706	1,872	879	31.9	744	33.6	3,506	101	58.8
Duluth, Missabe & I. R.	1945	14,774	448	15,222	2.7	89,874	5,184	3,189	57.1	1,121	38.4	31,209	59	125.8
	1944	15,065	322	15,387	2.6	90,145	5,312	3,261	57.5	1,179	40.5	33,261	58	121.7
Great Northern	1945	20,402	28,792	49,194	2.1	48,149	3,100	1,561	36.6	1,389	57.4	7,889	87	100.3
	1944	25,627	16,739	42,366	2.2	45,436	2,954	1,554	37.9	1,374	52.2	7,386	87	94.6
Minneap., St. P. & S. St. M.	1945	5,670	6,791	12,461	3.8	35,155	2,042	1,021	34.5	1,202	50.4	3,567	87	110.9
	1944	6,834	6,344	13,178	2.9	33,777	1,959	959	33.5	1,035	45.8	3,211	85	112.6
Northern Pacific	1945	15,722	24,022	39,744	3.6	44,607	2,957	1,502	34.0	1,282	50.5	7,458	124	91.4
	1944	17,911	17,337	35,248	3.5	43,533	2,799	1,456	34.3	1,232	46.8	6,421	116	82.9
Central Western Region:														
Alton**	1945	1,582	7,532	9,114	3.0	38,386	1,856	888	31.4	912	41.4	8,963	123	132.9
	1944	1,541	7,249	8,790	2.8	40,319	1,853	898	33.7	908	40.9	8,208	116	122.2
Atch., Top. & S. Fe (incl. G. C. & S. F. & P. & S. F.)	1945	39.784	72,426	112,210	3.2	43,947	2,575	1,027	27.9	1,251	72.1	10,217	105	150.8
	1944	45,744	53,603	99,347	2.9	44,793	2,535	975	26.0	1,183	70.5	8,612	103	142.3
Chi., Burl. & Quincy	1945	16,430	26,817	43,247	2.1	43,038	2,700	1,324	32.7	1,361	58.5	6,944	99	106.3
	1944	16,662	26,636	43,298	2.7	40,748	2,647	1,276	33.5	1,363	60.9	6,640	103	99.3
Chi., Rock I. & Pac.**	1945	9,319	25,795	35,114	3.1	35,906	2,080	954	30.2	1,344	65.1	6,136	105	120.7
	1944	12,658	23,091	35,749	3.7	34,874	2,044	883	29.4	1,143	61.4	5,231	107	107.9
Denver & R. G. Wn.**	1945	7,860	10,588	18,448	4.7	35,880	2,371	1,202	31.6	1,197	47.7	8,205	161	107.4
	1944	8,251	6,183	14,434	3.5	35,433	2,251	1,111	30.8	1,030	43.4	6,251	158	87.0
Southern Pacific—Pacific Lines	1945	23,102	66,345	89,447	2.5	39,462	2,918	1,202	27.0	1,088	58.8	11,623	96	117.1
	1944	24,564	55,998	80,562	2.3	39,583	2,784	1,166	27.0	1,102	59.0	10,771	97	110.1
Union Pacific	1945	26,558	51,387	77,945	3.5	48,335	2,509	1,143	29.3	1,614	78.4	12,339	123	139.6
	1944	30,091	36,876	66,967	2.7	48,751	2,553	1,224	30.1	1,588	70.9	10,772	117	119.0
Southwestern Region:														
Mo.-Kans.-Texas Lines	1945	1,166	9,337	10,503	.2	33,089	1,915	850	30.6	2,039	108.8	6,958	83	174.8
	1944	1,809	8,946	10,755	.4	33,770	1,900	830	30.3	2,348	131.7	7,705	78	196.2
Missouri Pacific**	1945	12,429	27,515	39,944	1.7	40,310	2,424	1,125	30.6	1,556	75.4	8,729	103	117.9
	1944	12.898	29,575	42,473	1.5	41,165	2,435	1,110	31.2	1,439	71.4	8,766	99	116.1
Texas & Pacific	1945	1,385	9,302	10,687	2.0	38,575	2,273	971	27.5	1,528	79.6	8,439	90	116.5
	1944	1,513	7,335	8,848	1.8	42,401	2,220	901	26.9	1,550	87.9	6,649	86	99.2
St. Louis-San Francisco**	1945	5,838	15,246	21,084	1.8	32,547	1,707	802	31.0	1,417	66.9	6,338	124	121.2
	1944	7,935	13,061	20,996	1.8	32,770	1,696	755	31.1	1,360	70.9	5,950	123	119.8
St. Louis-San Fran. & Texas	1945	....	417	417	2.2	18,986	1,113	467	28.0	1,290	67.6	3,330	121	147.0
	1944	....	389	389	10.3	22,323	1,075	444	28.0	1,632	91.2	3,366	115	141.3
St. Louis Southwestern Lines**	1945	901	7,204	8,105	1.6	36,335	2,257	1,009	27.8	1,921	100.4	10,145	79	126.8
	1944	1,134	6,883	8,017	1.6	36,376	2,188	946	27.1	2,122	112.7	11,006	75	137.5
Texas & New Orleans	1945	3,489	19,633	23,122	3.6	30,557	1,740	760	29.2	1,183	61.5	6,594	92	144.8
	1944	3,872	18,629	22,501	2.9	33,059	1,825	814	29.4	1,304	66.2	6,832	85	140.9

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

You don't need a weather forecast





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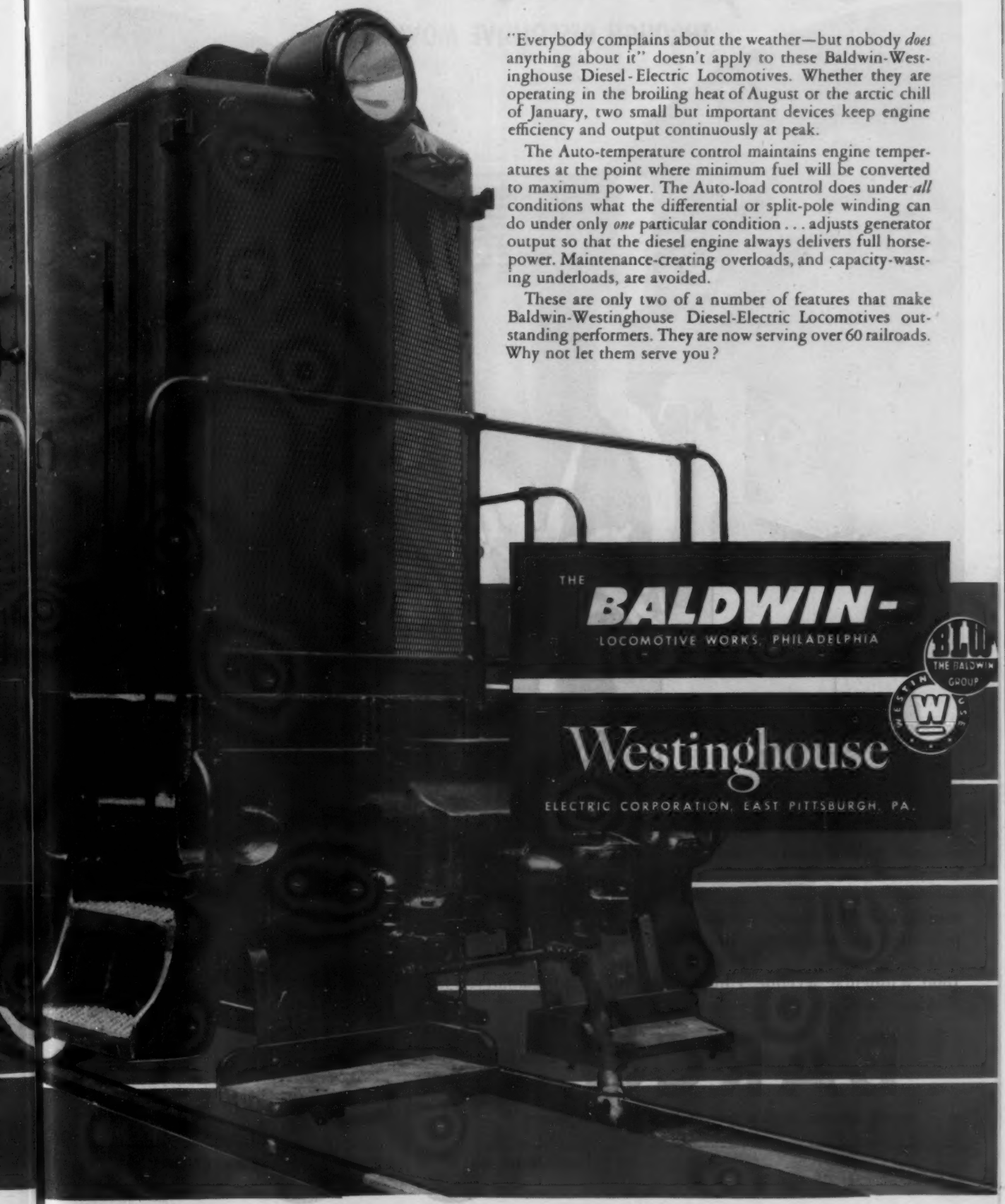

"Everybody complains about the weather—but nobody *does* anything about it" doesn't apply to these Baldwin-Westinghouse Diesel-Electric Locomotives. Whether they are operating in the broiling heat of August or the arctic chill of January, two small but important devices keep engine efficiency and output continuously at peak.

The Auto-temperature control maintains engine temperatures at the point where minimum fuel will be converted to maximum power. The Auto-load control does under *all* conditions what the differential or split-pole winding can do under only *one* particular condition . . . adjusts generator output so that the diesel engine always delivers full horsepower. Maintenance-creating overloads, and capacity-wasting underloads, are avoided.

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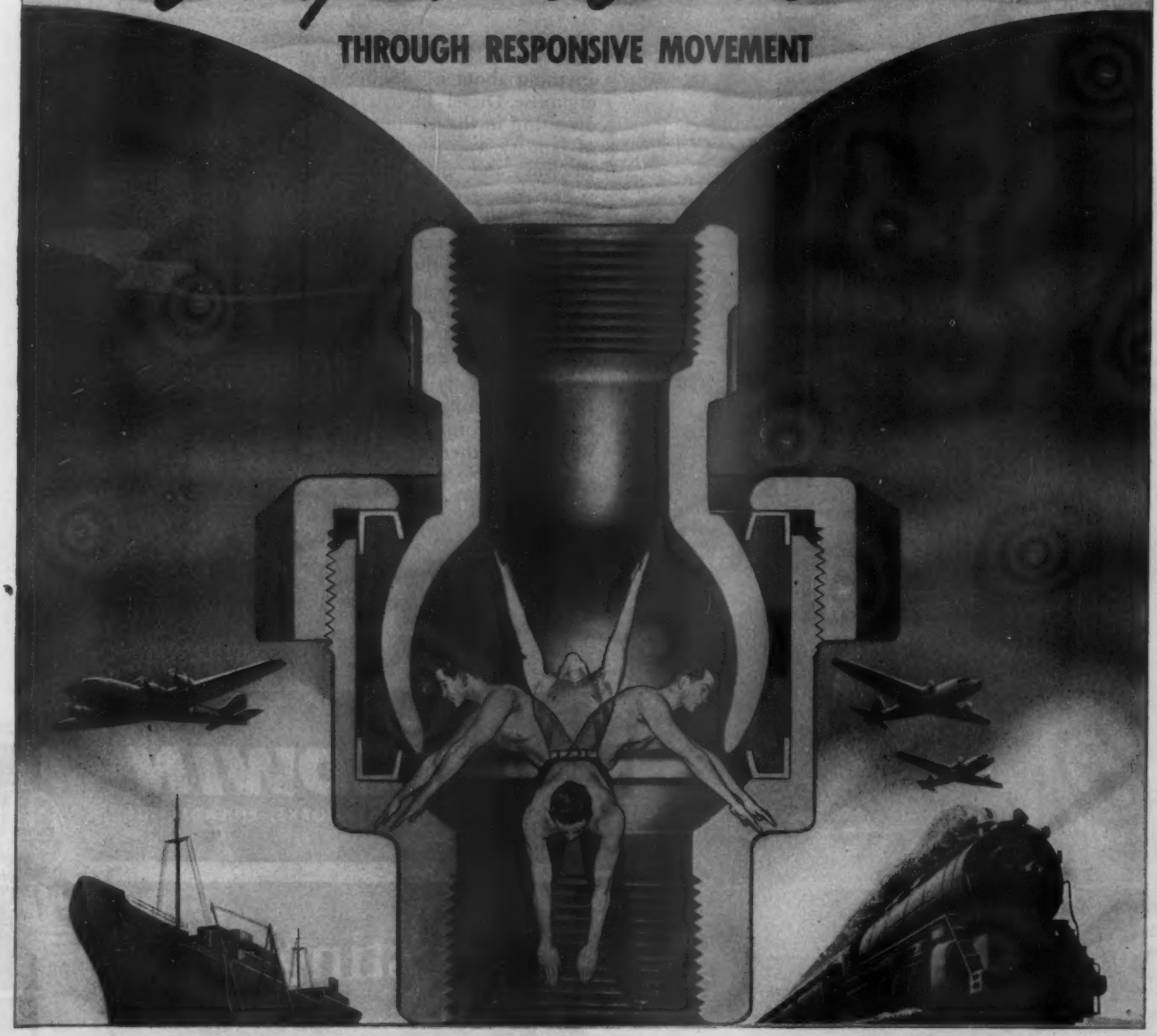

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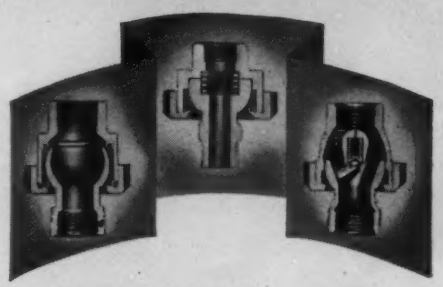

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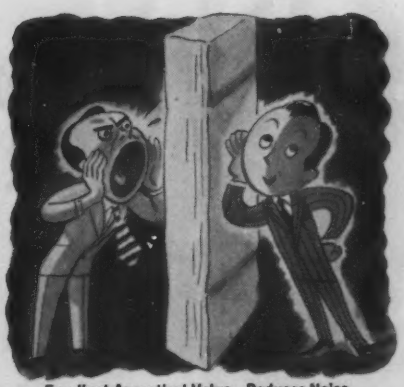

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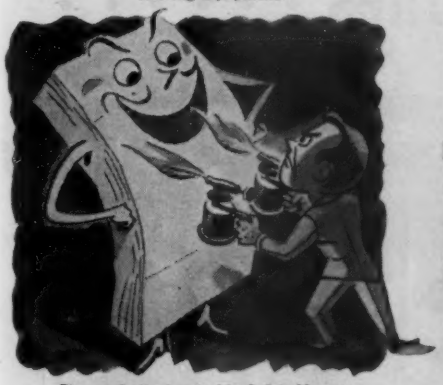

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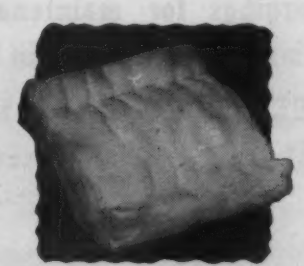

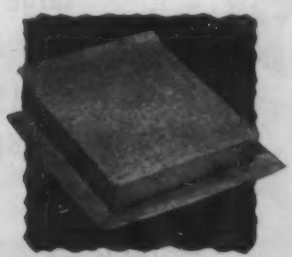

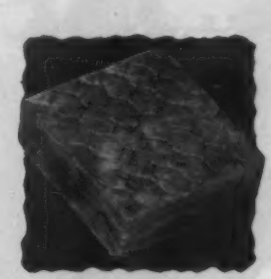

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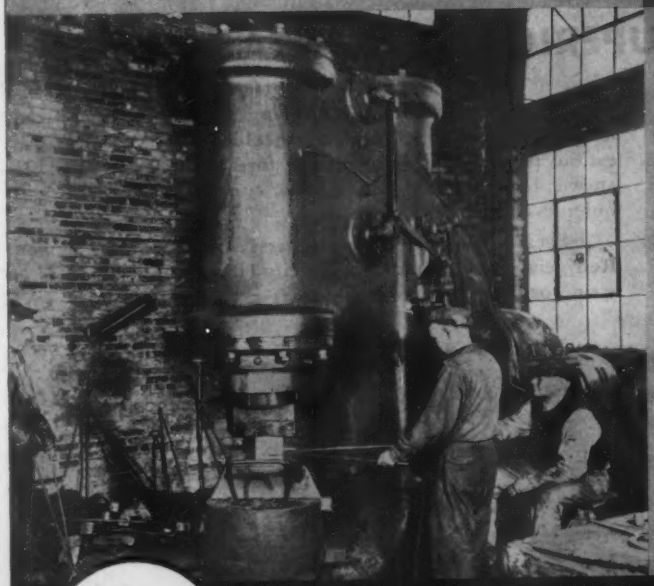

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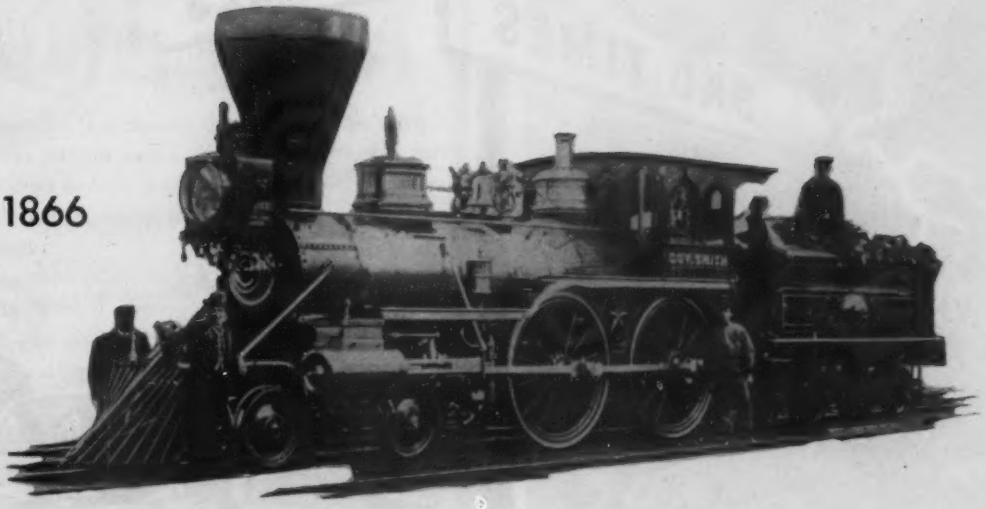

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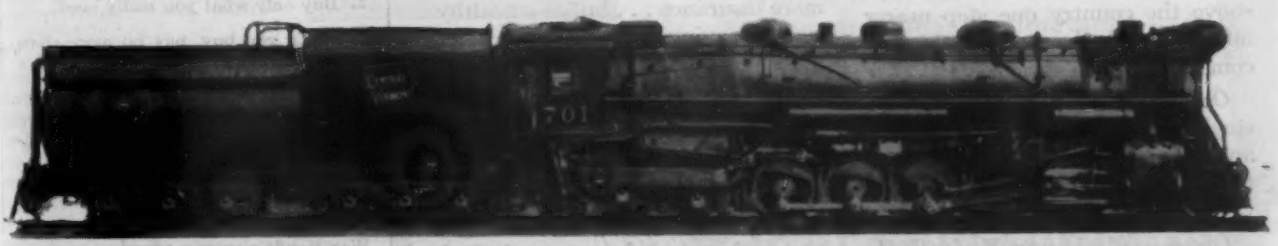

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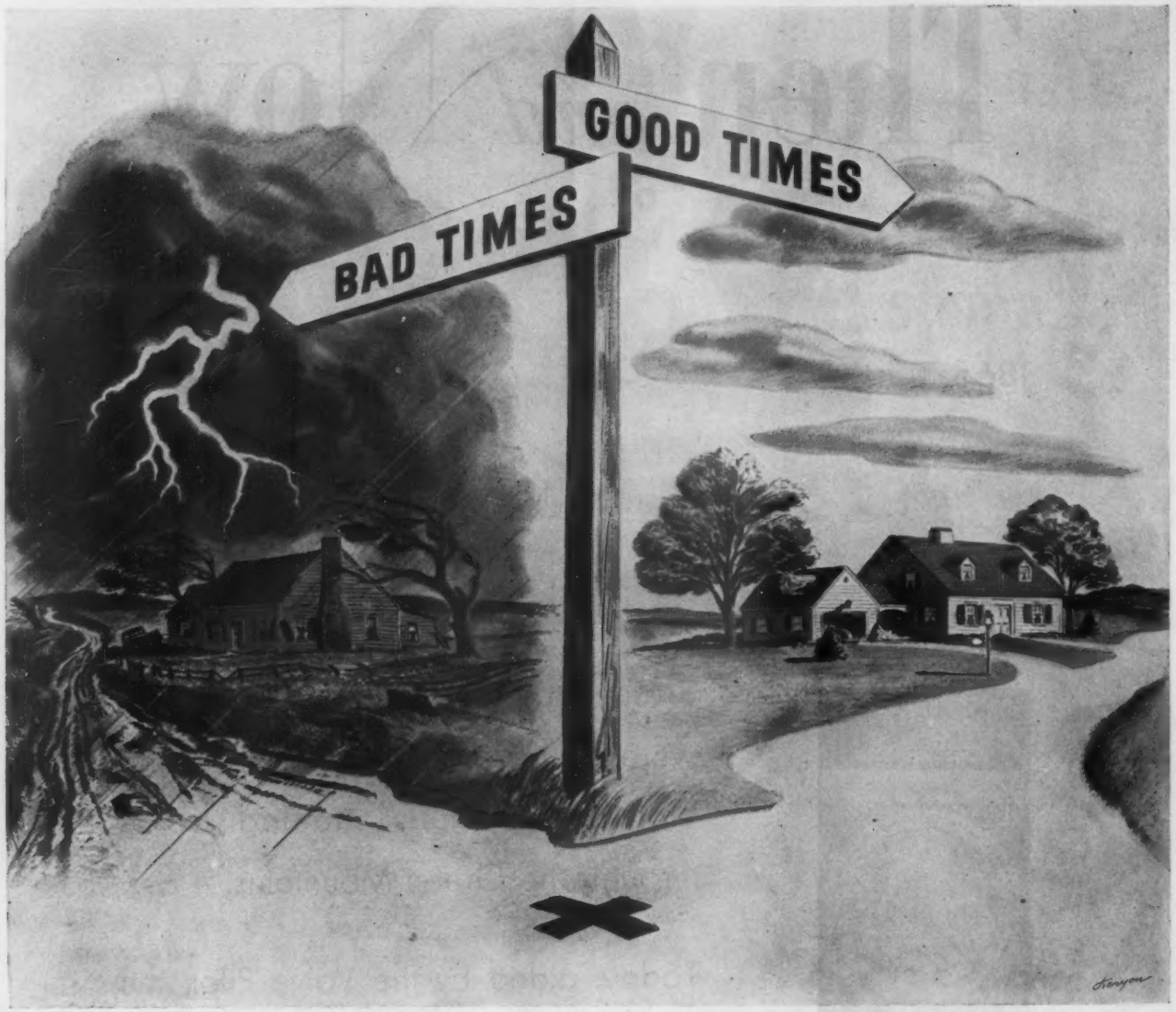

Here's where you stand today!

Look ahead a year or two...for your own sake.

Over on the dark side is this: Every unnecessary thing you buy helps shove the country one step nearer inflation and the bad times that come in inflation's wake.

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YOU SHOULD. Because if every man Jack (and every girl Jill) buys nothing he can get along without . . . (avoids Black Markets and "just-a-little-above-the-ceiling" like the plague!) . . . pays off the mortgage or any other debts . . . takes out more insurance . . . builds a healthy sock of savings . . . buys and holds more War Bonds—inflation will stay away from our door.

And Jack and Jill will be in a sound position no matter what times come.

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4 THINGS TO DO to keep prices down and to protect your own future!

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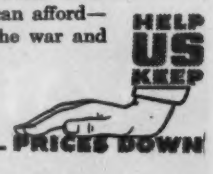
4. *Save.* Buy and hold all the War Bonds you can afford—to help pay for the war and protect your future. Keep up your insurance



A United States War message prepared by the War Advertising Council; approved by the Office of War Information; and contributed by this magazine in cooperation with the Magazine Publishers of America.

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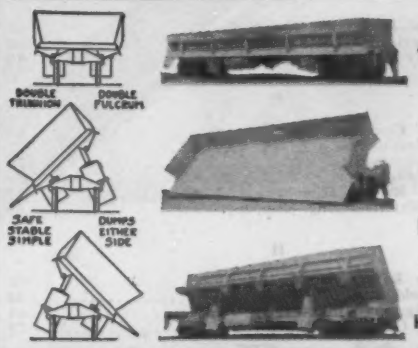

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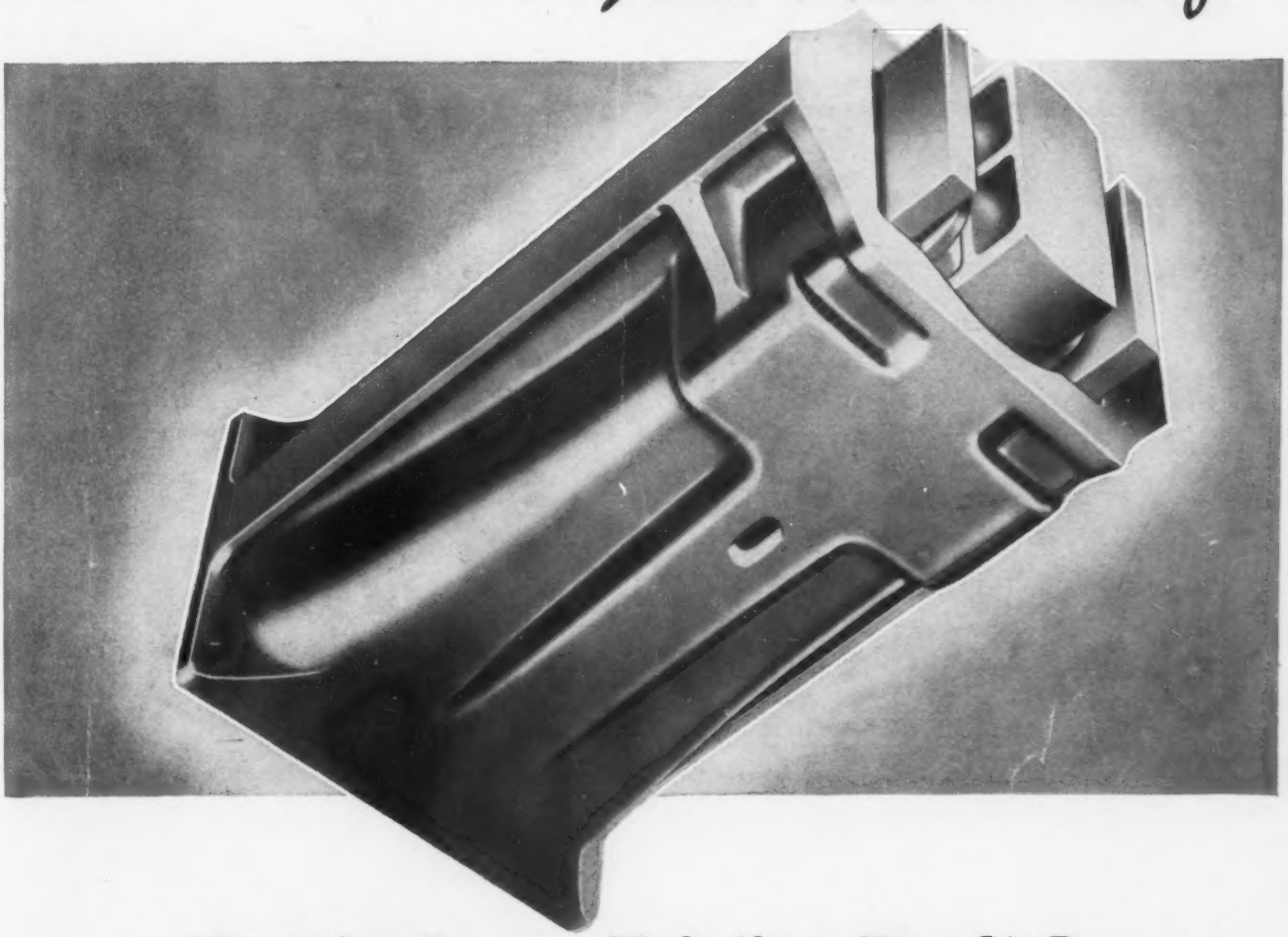

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Between July 1941 and April 1945 a Baltimore & Ohio General Motors Diesel passenger locomotive (No. 62AB) rolled up a total of 1,028,396 miles.

A study of the table below showing the miles operated by this GM Diesel from month to month between January 1944 and May 1945 reveals an average availability that is remarkable, even for a GM Diesel:

BALTIMORE AND OHIO No. 62AB			
Month	Operated	Assigned	Per Cent
January—1944	23,927	23,927	100
February	22,414	22,414	100
March	23,921	23,921	100
April	20,080	23,172	86.7
May	23,939	23,939	100
June	23,148	23,148	100
July	23,129	23,902	96.8
August	9,130	9,130	100
September	22,623	22,623	100
October	23,945	23,945	100
November	23,166	23,166	100
December	23,927	23,927	100
January—1945	23,921	23,921	100
February	21,602	21,602	100
March	20,348	20,348	100
April	19,990	19,990	100
	349,210	353,075	99.0%

Please observe that this General Motors Diesel locomotive operated 14 out of 16 months at an availability of 100%—and the last nine months *continuously*. Average, all-over availability, 99%.

Compare these figures with any other with which you may be familiar!

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